DOCUMENT RESUME

ED 205 675 CE 028 786

AUTHOR Leach, James A., Ed.
TITLE Productivity in the Workforce: A Search for Perspectives. Proceedings of the Annual Rupert N. Evans Symposium (2nd, Urbana, Illinois, April 21-22, 1980).
INSTITUTION Illinois Univ., Urbana. Dept. of Vocational and Technical Education.
PUB DATE Dec 80
NOTE 98p.; For a related document see CE 029 475.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Business; Curriculum; *Definitions; Developmental Disabilities; Disadvantaged; Economic Factors; Employee Attitudes; Employment Programs; Females; Influences; *Minority Groups; *Population Trends; Postsecondary Education; *Productivity; Secondary Education; Social Influences; *Socioeconomic Influences; *Vocational Education
IDENTIFIERS Small Businesses

ABSTRACT

This monograph is concerned with the topic of productivity in the workforce. The papers presented represent an attempt to bring together the thinking of individuals from various fields of study on the topic. The first set of papers in the monograph is concerned with defining productivity in a broad sense. To this end, papers are presented that address the topic from an economic, social, and worker perspective. A second set of papers is concerned with enhancing productivity by concentrating on specific subgroups of the nation's population. Each of the papers in both sets was presented at the conference and is followed by a reaction that was also presented. Finally, two papers are included as a conclusion. The first attempts to summarize the observations, concerns, and recommendations included among the preceding papers. The second lends a general vocational education perspective to the concept of worker productivity. The presenters and participants in the symposium included experts from the fields of vocational and technical education, family and consumer economics, business administration, educational policy studies, occupational education, sociology, special education, economics, labor and industrial relations, and social work. (KC)

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Office of
Vocational Education Research
Department of Vocational
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College of Education
University of Illinois at
Urbana-Champaign

Productivity in the Workforce: A Search for Perspectives

Proceedings of the
Second Annual
Rupert N. Evans Symposium

James A. Leach, Editor

December, 1980

CE 028 786

U S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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Foreword

The Office of Vocational Education Research (OVER) was established in 1978 within the Department of Vocational and Technical Education, College of Education, University of Illinois at Urbana-Champaign. One of the missions of OVER is to expand impact on researchers and professional communities through seminars, workshops, and conferences. OVER also assists in the sharing and publication of outcomes resulting from these activities.

In an effort to meet this goal, the Office of Vocational Education Research each year sponsors the Rupert N. Evans Symposium on Vocational Education. The symposium held on April 21 and 22, 1980 was an interdisciplinary consideration of "Productivity in the Workforce: A Search for Perspectives." This topic was addressed through a series of presentations and discussions which first defined productivity by focusing on economic, social and worker views and then discussed ways to enhance productivity by examining the topics of "Increasing Productivity in the Small Business Sector," "Women and Productivity," "Productivity and the Handicapped," and "Concepts in Curriculum Related to Productivity."

The presenters and participants included experts from the fields of Vocational and Technical Education, Family and Consumer Economics, Business Administration, Educational Policy Studies, Occupational Education, Sociology, Special Education, Economics, Labor and Industrial Relations and Social Work. Participants represented the University of Illinois at Urbana-Champaign, University of Missouri, Chicago State University, Western Illinois University, Eastern Illinois University, Governors State University, Southern Illinois University, and Northern Illinois University, as well as the Illinois State Chamber of Commerce, the Twin City Federation of Labor, the Illinois Community College Board, the Illinois State Board of Education, the Illinois State Advisory Council on Adult, Vocational and Technical Education, the Illinois Board of Higher Education, and the American Vocational Association.

This monograph, edited by James A. Leach with the assistance of Ms. Debbie Nelson, represents one outcome of the second Rupert N. Evans Symposium. It is hoped that this document will spur additional thought and dialogue on the topic of productivity and that the individuals, professions and the nation may benefit in some way.

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Preface

This monograph is concerned with the topic of productivity in the workforce. The papers presented represent an attempt to bring together the thinking of individuals from various fields of study on the topic. The papers were presented at the 1980 Rupert N. Evans Symposium on Vocational Education conducted April 21 and 22 at the University of Illinois at Urbana-Champaign.

Understanding more clearly the concept of worker productivity and, in fact, trying to improve the productivity of the workforce has in many ways been a continuing theme for the Department of Vocational and Technical Education at the University of Illinois. Numerous major research projects and related activities have in some way been linked to the concept. Research identifying the survival skills needed by workers to maintain occupations successfully and research related to entrepreneurship education are two recent examples. The topic of worker productivity is linked in many facets to other projects and research currently underway in the department such as job creation and economic development and small business and CETA linkage. The topic for this monograph may be considered as an outgrowth of these related research activities.

The first set of papers in the monograph is concerned with defining productivity in a broad sense. To this end, papers are presented which address the topic from an economic, social, and worker perspective. A second set of papers is concerned with enhancing productivity by concentrating on specific subgroups of the nation's population. Each of the papers in both sets was presented at the conference and is followed by a reaction which was also presented. Finally, two papers are included as a conclusion. The first attempts to summarize the observations, concerns, and recommendations included among the preceding papers. The second lends a general vocational education perspective to the concept of worker productivity.

My appreciation is extended to those who contributed papers to the monograph in a timely manner, to those who attended the conference and added vitality and dimension to the discussion sessions, and to Debbie Nelson for her expert technical editorial work on the monograph.

As is the case with most publications, this monograph does not provide answers or information concerning all aspects of the topic. In addition, there is not always agreement expressed on the topic at hand by different writers. However, one message comes through clearly in each of the papers: the productivity of the workforce is of crucial importance. Psychologists, sociologists, educators, and people from countless other fields are joining economists to observe, analyze, and grapple with the theories and realities of productivity.

The need to learn more about productivity in the workforce is great. If this monograph serves to inspire its readers to add to our limited knowledge of the topic, it will have served its purpose.

J.A.L.

PRODUCTIVITY IN THE WORKFORCE:
A SEARCH FOR PERSPECTIVES

1. DEFINING PRODUCTIVITY

Opening Remarks to Symposium Participants

Rupert N. Evans

The title of this conference could very well have been "Enhancing Productivity in a Society that Values Social, Geographic, Occupational and other Types of Mobility." I am very pleased to see that there are really two parts to the conference--the first addresses the question, I believe, "What is productivity?" and the second addresses the question, "How can and how should vocational education attempt to affect productivity?"

Most vocational educators do not read much about productivity. We are, however, reading and learning from comments such as the following: 1) productivity is increasing at a much lower rate than we had become accustomed to in this country; 2) we need greater productivity to survive in the international market place; 3) we do not know how to increase productivity in the service sector; 4) productivity of university professors, among others, is actually going down; 5) young people have so little productivity that we cannot afford to pay them the minimum wage; 6) the best time to train workers is during a recession when they are not engaged in productive work; 7) many people think that vocational education is designed to prepare docile employees who will work for substandard wages and never question production standards; 8) the schools ought to teach their students the basics and employers will teach them the skills they need to be productive; 9) we have information that indicates that vocational education graduates, on the average, have lower hourly earnings, but higher annual earnings than comparable students in other curricula, and that these annual earnings are higher relatively than the hourly earnings because vocational education graduates have less unemployment and shorter periods of unemployment; and 10) job satisfaction and worker productivity are uncorrelated.

Vocational educators have an intuitive feeling that vocational education should, can, and does enhance productivity. Unfortunately, it is pretty much <u>just</u> an intuitive feeling. We do not really ask ourselves, "What kinds of productivity?" Are we talking about individual, group, corporate, state, national or global productivity? We do not know much about the relationship between age and productivity and when vocational education interacts best with age. There is a good deal of evidence that, by some standards, vocational education in the high school does not work nearly as well as vocational education in the community college. With the change in age distribution of the population, the question of age and productivity and education, the interaction of these, becomes more important than ever.

We have a sense that productivity ought to be increased, but not at all costs, recognizing that we do not know just what the costs are. It seems to me that this conference will help us all to go beyond the intuitive level in which we can just have a deep feeling that vocational education should, can and does enhance productivity. We have a sense that there must be some ways in which we can enhance productivity more than we are doing now. However, we want to be sure, as we move to enhance productivity, that we do not destroy other things that we value. I am looking forward to learning a great deal in the next two days.

Defining Productivity: Economic Views

David Stevens

> Productivity is ...of interest to many kinds of people... who differ in needs and objectives, in 'propensity to assume,' in level of sophistication, and in standards regarding the rigorous use of numbers, algebra, or calculus.
>
> Throughout my career, I have known administrators, men of affairs, scholars, journalists, assorted clients, and others who had no patience for the subtleties of measurement art--until the numbers that they clutched disappointed their own preconceptions and interests. The lesson is clear: Who starts with 'technical' aspects of measurement moves toward the sociological; who starts with the sociological moves toward the 'technical.'[1]

Introduction

Productivity, simply stated, is a relationship between outputs and resource inputs. Production depends upon the quantity and quality of inputs used, and the efficiency with which they are applied. Efficiency measurement requires a definable and recognizable input-output relation. It will become clear as definitions are introduced that some alleged productivity measures are nothing of the kind. This problem may be serious, if uninformed, measurement of the wrong factors providing a misleading estimate of the actual productive process.

The remainder of this paper covers three fundamental aspects of productivity analysis: concepts, measurement issues, and a brief consideration of causal forces.

Productivity Concepts

The concept of <u>total</u> productivity relates measured output to all the inputs used in producing it. This concept is largely a post-World War II phenomenon linked to the study of sources of economic growth.[2] A more familiar productivity concept relates output to just one major input, e.g., labor or capital equipment, producing a <u>partial</u> productivity estimate.

The concept of an input-output relation, or production function, involves real resource terms. Inputs are, by definition, used up in the production process. For some analytical purposes, comparability among dissimilar input and output units must be accomplished. Expression of all units in dollar values involves assumptions about relationships between observed or imputed prices and real resource characteristics at a given time, and the stability of these relationships in comparisons at different times.[3]

The partial productivity concept that receives the most attention is labor productivity, but there are many labor productivity measures. Output can be related to the number of individuals engaged in the productive process, the number of hours paid for, the number of hours actually committed to production, or any of these terms adjusted for qualitative changes in the human resources contributed. It should be obvious that the choice of concept is likely to affect the resulting productivity estimate derived.

Any partial productivity measure expresses the <u>combined</u> influence of a number of causal forces on the input-output relation, "such as changes in technology, substitution of one factor for another, utilization of capacity, layout and flow of material, the skill levels and the efforts of the work force, and managerial and organizational skills."[4]

Productivity estimates are usually presented in the form of comparison at different times (rates of change) or among comparable units at a designated time (differences in productivity levels.) These rates of change or differences are derived from the estimated input-output ratios, which are in turn dependent upon the definitions chosen.

Productivity measures should not reflect the effectiveness of the products or services produced in satisfying individual, organizational or social goals. This distinction is of particular importance in the service sectors, both public and private, in which definition of ouput is fraught with problems.[5]

Measurement Issues

The basic measurement problem is to develop practical counterparts for the theoretical principles introduced above. Output and input estimation issues are examined separately.

Output. The fundamental problem here is to develop compatible estimates of real product. The higher the unit of aggregation, the higher is the probability that measurement errors will cancel one another. At the industry level, detailed product data are frequently unavailable, changes in product or service quality are not recorded, and the introduction of new products or services and other compositional changes are not exhibited.[6]

Input. Extraordinary efforts have been made to adjust labor inputs to reflect qualitative changes that have occurred over time.[7] One approach involves weighting industry person-hours by average hourly earnings in each industry, based on the assumption that earnings differentials reflect productivity differences. This is a controversial premise at best. An alternative approach adjusts for changes in the age, sex and educational composition of the workforce. Again, the tenuous nature of the links among education, skill embodiment, and the application of these skills in a work setting remain a topic of great interest to professional students of labor market processes. There are also many other measurement problems associated with incomplete coverage, difficulties in accounting for production versus management contributions, and unevenness in degrees of labor utilization.

Causal Forces

One of the important short-term determinants of productivity is the rate of capacity utilization; partial productivity estimates for labor being especially sensitive to cyclical fluctuations in utilization rates. A second important short-term productivity factor is the rapidity with which new technologies are integrated into production processes.[8] A third short-term productivity factor involves the extent to which labor productivity (efficiency) deviates from a realizable norm; a measure that appears to exhibit a cyclical pattern. Of course, the rate of investment in human and capital resources varies cyclically too, introducing a fourth short-term force that affects productivity.

Among the important secular forces that influence productivity, perhaps the most fundamental is simply the commitment of research and development resources to pursuit of innovative advance, both technological and organizational. This commitment should be interpreted to cover both tangible and intangible investments. Another long-term force that allows productivity improvement is economies of scale; i.e., advantages from specialization that derive from expansion of markets and technological breakthroughs.

The remaining half of this paper explores recent trends in partial labor productivity, building upon the terms and concepts introduced up to this point. The following excerpts from a Joint Economic Committee Print, authored by John W. Kendrick, provide an appropriate starting place:

> Actually, monopolistic and restrictive practices by managements and labor unions, and market interventions by governments, create distortions in the allocation of resources. Thus, changes in institutional forces and practices affect productivity. Further, the market is not perfect so that the mix of investments and capital, and distribution of the labor force, are generally suboptimal. The problem is compounded by the frictions and lags in adjusting factor supplies to changes in relative demands due to changes in technology and other dynamic forces. Thus, more rapid adjustments to change could raise productivity.

> It is difficult to quantify the effects of the various causal forces on productivity change. Even if all the significant forces can be identified and measured, it is still hard to disentangle the effects of the several variables, since they interact.[9]

Until recently, transitory forces and traditional cyclical patterns have been appealed to when the dismal productivity record of the 1970's has been explained. The change in demographic composition of the labor force, which brought large numbers of young people and somewhat older women with little prior work experience into the production process, is usually invoked as a major cause of declining estimates of labor productivity. Since other writers will address this topic directly, I will not dwell on it at this time.

A second economic force that has been identified as a major contributor to the productivity problem is a declining rate of capital formation.[10] One particularly important aspect of this factor is the extent to which current measurement procedures fail to reflect an increased rate of capital obsolescence attributable to the rapid rise in energy costs, which alters the economic viability of the existing capital stock. A related issue in accurate measurement of capital formation is to develop procedures that distinguish between capital that contributes directly to measured output and that which is devoted to compliance with governmental mandates associated with environmental protection and occupational health and safety measures. In each of the three cases cited it would be expected that the estimated capital stock overstates that which is actually available for productive application. Finally, capital formation is affected by inflation, as well as influencing the rate of increase in prices. There is no consensus among economists about these complex causal chains. One important force derives from the increased risk of investment decisions that has been blamed on the unpredictable behavior of the Congress and governmental agencies. This topic is examined in greater detail in a more general context in the final section of this paper.

A recent partisan statement on productivity concludes that our productivity problems are "...in good part illusory, largely transitory, and certainly curable..."[11] The points made are that what might have been labor force composition problems in the 1970's will become strengths in the 1980's, that output measures have not reflected the social benefits of regulatory mandates (and that there is a one-time element to these investments anyway,) and that avoiding recessions is the surest way to cure the productivity malady.

Research Directions

Let us turn to the specific concerns of this symposium: development of a basis for cooperative research on the topic of productivity. A common bond among those of us in this room is a professional commitment to improve our understanding of how human potential can be enhanced, and how this potential can be realized to the benefit of both the individual and society. We are at a very primitive level in our current understanding of either aspect of the issue.

One important manifestation of the volatile economic events of the 1970's has been an increased sense of urgency among the owners of capital resources and the incumbents in many jobs to insulate themselves from the vagaries of these external events. What institutional innovations have these groups created to achieve the desired insulation? We are the ones who should be addressing this question. Among the highest priority items on this agenda, I would include the following research studies:

- What forces really influence employee motivation? It is my understanding that there is no consensus about this matter.
- Related to the motivation topic, what are the tradeoffs between enhanced resource mobility and the consequences of economic insecurity?
- Under what circumstances can skill enhancement occur beyond the boundaries of the production process itself?

- How important is team productivity relative to productivity embodied in individuals that is separable from the productive setting itself?

Underlying each of these questions is the premise that human and organizational behavior has not changed in any fundamental way in the past decade; the rules of the game have changed, and we have not done a very good job of tracing the behavioral consequences of these new rules. I conclude with several examples from my own observations that illustrate why such importance is placed on this monitoring function.

What are the productivity consequences of temporary help organizations?[12] This industry has grown by extraordinary proportions in recent years. Why? What causal paths flow from the development of an external temporary source of human resources to the motivation of incumbent employees? Indeed, to what extent has there been a substitution of external resources for internal commitments? What are the "hold-harmless" manifestations of the temporary help industry with regard to equal opportunity, affirmative action, and traditional patterns of career development; i.e., employee equity?

What are the productivity consequences of government employment and training programs? To what extent are these programs viewed as self-contained alternatives to unsubsidized employment in the public or private sectors, rather than as a stepping-stone into either of the latter sectors? Under what circumstances is participation in an employment or training program stigmatizing, thereby creating a possibility that a participant's life-chances to contribute productivity are diminished, not enhanced? Related to the issue of team productivity: For whom, and under what circumstances is external skill preparation an important determinant of subsequent labor market performance?

I conclude by restating a theme that many of you have heard me offer on previous occasions: What difference would it make if we knew more; i.e., understood the determinants of workforce productivity? First, the basis for discussion could be shifted from a heavy emphasis on measurement issues to more focused concerns with institutional impacts on organizational and individual behavior. Second, it would be clearer who the actual and potential winners and losers from particular institutional arrangements are now and would be under alternative circumstances.[13] This clarity would make partisan advocacy more difficult to pursue, if the facts are inconsistent with the desired scenario. And finally, knowing more about institutional processes may itself increase productivity directly by enhancing the efficiency of utilization of existing resources, both tangible and intangible.

Footnotes

1. Irving H. Siegel, "Measurement of Productivity," in Productivity: Five Background Papers Prepared For a Conference on an Agenda For Economic Research on Productivity, National Commission on Productivity, April, 1973, p. 17.

2. Solomon Fabricant, "Perspective on Productivity Research," Ibid, p. 7.

3. John W. Kendrick, Understanding Productivity: An Introduction to the Dynamics of Productivity Change, Policy Studies in Employment and Welfare, Number 31, Baltimore: The Johns Hopkins University Press 1977, 141 pp.

4. Jerome A. Mark, "Concepts and Measures of Productivity," in The Meaning and Measurement of Productivity, Bulletin 1714, Bureau of Labor Statistics, U.S. Department of Labor, September 1971, p. 7.

5. See: Improving Productivity in State and Local Government, Committee on Economic Development March, 1976, pp. 15-18; and, "Productivity in the Federal Government," a staff study completed for the Joint Economic Committee of Congress May 31, 1979, 34 pp.

6. See: Stanley A. Horowitz and Allan Sherman, "A Direct Measure of the Relationship Between Human Capital and Productivity," Journal of Human Resources, Winter 1980, 15:1 pp. 67-76

7. See: Edward F. Denison, Accounting For United States Economic Growth 1929-1969. Washington D.C.: The Brookings Institution, 1974, pp. 187-259.

8. See: "U.S. Economic Growth From 1976 to 1986: Prospects, Problems, and Patterns," Volume 1--Productivity, Joint Economic Committee, October 1, 1976, p. 5.

9. Ibid, p. 7.

10. John A. Tatom, "The Productivity Problem," in Review (of the Federal Reserve Bank of St. Louis) September 1979, 61:9 pp. 3-16.

11. "Productivity...What's in a Word?," in Viewpoint. Spring 1980, 10:1 p. 4. Also see: "Report of the Executive Council of the AFL-CIO to the Thirteenth Convention," November, 1979.

12. See: Martin J. Gannon, "An Analysis of the Temporary Help Industry," in Labor Market Intermediaries, Special Report No. 22, National Commission For Manpower Policy. March 1978, pp. 195-226.

13. See: Jerome A. Mark, "Productivity Developments," Looking Ahead, 4:4 (National Planning Association), pp. 1-5.

Among recent sources of productivity data are: "International Comparisons of Manufacturing Productivity and Labor Costs: 1978," Bureau of Labor Statistics, Summary 80-1 (February 1980), 6 pp.; Productivity Indexes for Selected Industries, 1979 Edition, Bureau of Labor Statistics Bulletin 2054 (1979); and, Technological Change and its Labor Impact in Five Energy Industries, Bureau of Labor Statistics Bulletin 2005 (1979).

REACTION
TO
DEFINING PRODUCTIVITY: ECONOMIC VIEWS

John B. Parrish

As an introduction, Professor Stevens has talked about not only concepts and measurement but also the many causal factors involved in the productivity problem. These causal factors number 30, 40, 50, and more. So we cannot really discuss very many of them. What I would like to do is make a few comments on the first two of the causal factors that Professor Stevens mentioned in his paper. One is the decline in the rate of capital formation and the second is the problem of rising unit costs due to hours paid for, but not worked. I think both of these are deeply involved in our productivity problem. This is a knowledgeable audience, so I do not have to spell out our productivity problem. We have a big one and it is getting worse. We enjoyed an annual increase in productivity, output per man hours, around three percent in the 1950's. After 1965 it went down to around two percent and stayed that way until the early 1970's. In the last five years, we have been down to one percent and last year we had a minus one percent annual increase. Meanwhile our competitors have been maintaining four, five, six, and seven percent annual increases. So our relative competitive position has continued to worsen.

Among the 12 leading industrial countries, as you well know, we are at the bottom. Let me turn to the point about capital formation. I think this is the key. Other factors are important, but the center of the productivity problem is the decline in our ratio of capital to labor supply.

You can plow a field with a team of oxen and you can get a productivity rate. Now can you increase the effectiveness of the productivity rate by getting better and stronger oxen? Sure. You can develop a harder steel plow. You can educate the driver more. You can improve his attitude and motivation. Can you use women? Handicapped? Children? Part time help? Certainly. But if you put any of these people behind a new 500 horsepower tractor pulling 20 shears across the field, you are going to have a productivity rate that is 30 to one. Now the latter operator may have a poor attitude. He can be half drunk, as long as he can see well enough to head toward the end of the row. You can put someone with very little education on one of those tractors. You can use a very young or a very old person. A lot of things affect productivity and they can all be rather modest or poor, but if you have a high capital-labor ratio, that is a new 500 horsepower tractor and a 20 plow shears plowing behind, you will have a high productivity rate. This is the key.

The fact is, in this country, our ratio of capital stock to labor is deteriorating. It is in trouble. There are so many different ways to measure this. Between 1956 and 1972, one estimate places the value of capital at about $10,000 per person. Since that time, the ratio has steadily declined below $9,000. That does not tell the whole story, because if you make allowance for the wearing out of plant and equipment you come up with a ratio of net to gross investment. Our best ratio was in 1966 at 36 percent. It has declined to 12 percent in 1977, and probably last year went down to somewhere around 10 percent. We have simply failed to invest enough. We have shifted from a producer's economy to a consumer's economy which is not reinvesting at a high enough rate. And this is related to what has happened to our personal savings.

Between 1950 and 1975, personal savings as percent of national income fluctuated between five and 10 percent. It reached a peak of nine percent in 1976, and has declined steadily since then. The last two quarters of last year it was down to less than 3.5 percent. Meanwhile, while our savings rate has been declining, Japan has held steady at 22 percent, France at 16, West Germany at 14, and we are down below five. Corporations in this country are not saving much anymore. Between 1961 and 1965 we had an investment boom following John F. Kennedy's income policy in which we had tax cuts and investment tax credits which generated corporate savings, and cash flow with very little borrowing. Last year the corporate sector had to borrow 110 billion dollars. This means that corporations have simply ceased to create

their own savings. The cost of this borrowing has been skyrocketing and I would not be a bit surprised if within the next six months we see some very big companies, some very big banks and some very big savings and loan firms go bankrupt.

Recently Japan closed a steel plant because they considered it obsolete. It's productivity rate was 260 tons per man year for employee. Now that was low compared to the 860 tons for the average of the Japanese steel industry. In the United States, our rate was 290 tons for the whole industry. They close them down at the 260 ton rate. We are not competitive. We have allowed the industry to become obsolete. In the United States automobile industry's Chevrolet assembly lines, a conveyor belt is about a thousand yards long. Employees are elbow to elbow. One of the big problems is boredom. In Japan, the Toyota engine plant does not have a single employee on the assembly line. Castings come in at one end and the finished engines come out at the other. All the work is done by robots. Our assembly lines are not competitive. Japanese capital is being turned over in eight or nine years. Ours is closer to 20 years. They are reducing the average age of their capital stocks. We are not. Every year they gain an additional advantage. Why? Because we have a consumer's economy and they have a producers' economy. They spend little on social services. We spend a great deal. But they are outcompeting us in every product in which they wish to concentrate their efforts and their capital.

North of the border, in Canada, 35 percent of the steel facilities have been built since 1970. In the United States, 11 percent have been built since 1970. In Canada, they are replacing their plants within 20 years. The average in the United States is about 40 years. The last new steel mill built in the North Americas since 1960 was built in Canada. I could go on and on about this, but the fact is we have discouraged savings and encouraged consumption. We have discouraged investments. We have encouraged consumption and it is catching up with us. We are falling farther and farther behind. Domestically, real wages are not rising anymore. They are certain to go down unless we improve our competitive position.

There were two things I wanted to comment on. One was this problem of capital labor ratio and the other was Professor Steven's point that we are beginning to pay for time not worked. This has become a very serious problem. I think it is of great concern. I will illustrate it from the automobile industry. In 1969, the average General Motors worker was paid about $6.00 an hour for a 2,000 hour year. This yielded about $12,000 annually. By 1979, the average worker was earning $14.00 an hour or $28,000 for, assuming, a 2,000 hour year. At the end of the current three-year contract, that is, looking ahead to 1982, the average GM worker will be paid a little under $20.00 an hour, or $38,000 a year. Now also at the end of the current contract, the average GM worker will be entitled to full pay for 25 days of vacation, personal needs, birthdays, weddings, and bereavement pay. Then add to this eight legal paid holidays and seven days at Christmas for not working. Add another seven to 10 days off during model changeover and this adds up to between 47 and 50 days of full pay for not working. Assuming a work year of 261 days, this means the GM workers will get full pay for not working 18 percent of the time. Thirty years ago GM workers worked nearly 12 months for 12 month's pay. By 1982 they will be working only 10½ months for 12 months pay. I made just a rough extrapolation of these two trends. I projected the last three contracts in terms of hourly pay, assuming a full work year. Then I extrapolated downward this ratio of hours paid for versus hours not worked and I came out with the rough estimate that by the year 2020, GM workers will be paid $110,000.00 a year for not working at all. Now you all say that is ridiculous. I agree, but I only call your attention to the fact that this is a trend in the United States, and it is very, very costly.

You may have social achievement, but what good is that going to do you when the plant shuts down? And this is going to continue because the automobile UAW leaders say that at the end of the present contract, "We're going to be battling for more and more time to be paid for without working." The

recent Caterpillar contract provides for bereavement pay. If your grandchild passes away, you get a day or two off with pay. But this has been extended in the last contract to parents. If something happens to them, you get off. You get paid. It has also been extended to grandparents. It has also been, in the last contract extended to stepparents if they remarry. So it goes. I can only point out that Japanese workers work 96 or 97 percent of the time for a full day's pay. And we are working only 80 percent of the time with full pay. Our unit costs may be socially desirable and leisure is a great expectation, but we are losing our competitiveness and in the world markets that is what counts. I know that all of us are concerned about the decline in productivity and this conference has been devoted to those whose specialization is in vocational education. You cannot expect too much if our capital labor ratio goes down. We have a consumption society in which we are paying people for not working. You cannot blame the failures of vocational educators for the steady decline in productivity in this country. As a matter of fact it may be that your work has slowed the decline. So you cannot expect miracles unless somehow we turn this problem around and we once again do as we did 25 years ago, move along with a producer's economy and not a consumer's economy. Can we do this? I do not know. I am skeptical. I am doubtful. I doubt if unions are going to give up any of their leisure. I think they are going to press for more of it. It would take five, six, or seven years of real constraint, of real sacrifice. I am not sure that our people are prepared to make the sacrifice. It would take a consensus. I am not sure that we can arrive at a consensus, but I certainly admire all of you for doing what you can to improve productivity at a time when our environment is simply not very favorable.

Defining Productivity: Social Views

Bernard Karsh

The title assigned to this session presented formidable problems. It provided both a luxurious grant of freedom and a difficult problem in self-discipline. The problem, of course, was how to approach the question of "social views" when discussing productivity. I have chosen to explore a very current aspect of the general issue, worker productivity in relation to general decline in national productivity principally in manufacturing industry. I seek to provide an overview of the general problem of social and managerial ideologies about worker productivity within the framework of the American experience presented in an historical and cross-national context. In general, my approach draws heavily upon the work of Reinhard Bendix in his seminal study of work and authority in industry.[1]

For the greater part of the last several centuries, the relation between workers and productivity posed no special economic, social or intellectual problem. Only with the development of the factory system and industrial enterprise did workers and productivity become problems for owners and, later on, managers. Early puritans saw workers as idle, given to immoral ideas and conduct and generally lacking in virtue. Their own salvation lay in persistent hard work in pursuit of a calling. The social Darwinists dismissed them as inferior creatures who had failed to succeed in the struggle for success and the proof was their inferior status.[2] They became "problems" with the scientific management of F. W. Taylor[3] and the ideologies which followed. These were ushered in by the growth of large-scale mass production industry and can be seen as managerial strategies designed to control the behavior of workers with consequent effect on productivity.

Taylor's scientific management can be thought of as a strategy that separated planning from performance at the shop level. Taylor asserted that neither the manager nor the worker should legitimately exercise authority over the planning of the work process since neither could understand the "science" of work and the design of work systems. Between them he placed the industrial engineer, a certified expert who made decisions about how tasks were to be accomplished and work was to be done. As Bendix has pointed out, Taylor stripped not only the worker of some of his control over the job, but he also stripped the manager of some of his managerial functions.[4] Some managers, for example, insisted that scientific management deprived them of the essential managerial function of engendering loyalty and originality among workers. The accomplishment of this task, without arguing whether or not it is indeed an essential managerial function, has become even more problematic at least since the end of World War I. Since the 1920's the American worker has represented a far more articulate and educated force than had ever before been present in industry, a result of a great revolution in the American educational system, beginning about the turn of the century.[5] How to enlist the loyalty and cooperation of such a labor force and thereby increase its productivity was a problem which Taylor's scientific management neither pretended to grapple with nor saw as a major issue in organizational authority or production management.

Scientific management implied a theory of social coersion through engineering. It proposed to structure the work place and accomplish its purpose through ordering and forbidding. Whichever directive it was, it was to be issued by a specialist whose competence and authority would not be questioned because it represented the new science of rational decision-making in the factory. It mattered not at all that the general cultural and social relations in the larger society were sharply at odds with the reality of authoritarian relations at work. The new specialists were now responsible for directing the work force in accord with the new science of management.

Yet, despite the efforts of the scientific managers, (or perhaps because of them), workers refused to become the kind of cooperators management sought in the effort to improve productivity. The most strident proponents of Tylorism gave way to a new "be kind to workers" ideology in the 1920's. A wave of paternalism characterized the new era. While it had been assumed from the days of Adam Smith that the masses of men were motivated by economic-self-interest, it now appeared that neither Taylor's engineers nor the

workers themselves really knew enough to maximize their potentials but had to be helped along by the managers who would show them the way. The managers were very much aided by the new vocational psychology which had been developed as a result of the program of intelligence testing in the army during World War I. The problem was to test for individual traits, interpret those traits, classify the characteristics of the job and then guide the individual into the job for which he was demonstrably fitted.

This development was entirely compatible with the growing specialization of work in industry at large and, of course, with the notion that work, in the first instance, was an ennobling experience and even a religious duty. During the 1920's, as Bendix documents, it was said by some employers that in exchange for their open-handed cooperation, workers demanded recognition for themselves in terms of an equality of worth with their employers. They wanted to take pride in their work; they were becoming alienated and needed to feel that their jobs involved a constructive career; they wanted to have a recognized status within industry and needed to feel that they contributed significantly to its success. Others proclaimed that workers needed a sense of ownership if they were to achieve their fullest efficiency. Schemes of profit-sharing and stock ownership came into vogue.

A major complaint of the critics of capitalism and the factory system has long been the increase of specialization and especially of repetitive work, a complaint heard through most of the 19th century as well as now. It was, and is, said that these developments led to a loss of worker individuality and creativity. There had to be found some way to restore the interest in craftsmanship of an earlier time and to elicit the contribution of the worker's intelligence on behalf of management and productivity. Since it was difficult to, in fact, enlist the creative contributions of workers in the design of the work place, managers could at least attempt to create a sense of satisfaction among employees. What in fact was being said is that if work holds no interest, at least show your interest in the worker. As a result he might become a more active agent in the management goal of higher productivity.

The view that workers might be cooperators if only one respected their individual personalities and dignity and gave them an opportunity to creatively contribute represented a vast change from an earlier time when the worker had been regarded as a source of labor services or a relatively unsuccessful participant in the competitive struggle to survive. Yet, the new views were never far removed from the old ones. In the current rhetoric, we now hear that the American worker has become indolent, shiftless, overpaid and insensitive to the quality of his work effort as compared with the Japanese or German worker who builds much better cars or television sets or cameras.

The approach to industrial life embodied in the "participative management" or "human relations" or the current "quality of working life" technology contains a theory of work and organization, an ideology of authority and a set of strategies for both worker and manager behavior. The components of the program require examination.

Taylor said, in effect, "let us take planning out of the hands of the worker so that someone else can plan and he can execute." Countering this view, the participative management practitioners and the job redesign advocates say: "Let us increase worker autonomy; let us allow them wider ranges of decision; let us decentralize operations and decision structures; let us set up committees to make joint decisions in which everyone can participate; let us try to deal with alienation and morale and loyalty by giving workers a sense of status and security as participants in the enterprise. By doing so we can get the coordination, the cooperation, the creativity and the productivity that we so very much need."

This theory of human behavior asserts that work is a mode of expression through which individuals find a vehicle for creative action, through which "self actualization"[5] can be achieved. It becomes the responsibility of management to tap the creative resources of employees. As a result, work will become productive for both the worker and society, and implicitly, for the organization and its management.

The famous Hawthrone studies[6] showed that the development of groups provided the worker with a social organization which the productive process itself denied. Such groups could be utilized either to support or to hinder the efforts of management and the organization to achieve a high productive level. Work was then seen as a part of a worker's attitude toward the physical nature of the job and, more importantly, toward his conception of himself as a person and his relation to the social organization within which he operated and even to the larger society of which that was a part. This implies a clear theory of the role of management in society. For the sake of the common welfare, higher productivity would require workers who freely cooperate in contributing their imagination, experience and creativity to the end of increasing production. This is threatened by the workers' alienation from work and the organization. It is, therefore, the obligation of management to recover the workers' loyalty and his participation by encouraging the formation of groups which will collaborate in planning as well as executing. "Participative management," "human relations," the "quality of working life" programs and still others result. All of these, by whatever name, are strategies designed to gain the allegiance of workers and to minimize their alleged alienation from work and from the firm.

This sort of theory is in many ways especially comfortable in an affluent society reacting against legends of frontiers and strong men promising boundless success for individual initiatives. It rejects authoritative relations between individuals in a culture which continually espouses the rhetoric of equality and egalitarianism. In so doing the theory promotes weakened lines of authority and even the notion of authority as a legitimate regulator of social relations. In a very real sense, it suggests that conflict is not necessarily indigenous to large bureaucratic organizations and may indeed be alien to them. All of these propositions are debatable. Supporting evidence is far from conclusive.

Additional problems arise and contradictions become apparent as one examines the verbal symbols of the movement. When the program was identified simply as "human relations" it was characterized by metaphors such as "the team", "teamwork", the family" and similar terms exhorting workers to be loyal or to be more productive by identifying as a "memeber of the family" (if not the firm). Symbols such as these are intended to replace the view that managers essentially order and forbid. They represent a widespread effort to obtain consensus through discussion and through an effort to develop a high sense of morale even though research continually fails to demonstrate any consistent relationship between what is called "morale" and productivity. Yet, at the same time that the family metaphor was most popular, managers were prone to complain about the lack of creativity among workers, an alleged absence of "initiative" and "drive" in the "good-old-fashioned-American-spirit."

Direct reference to family symbols have now given way to more oblique references to groups and teams and circles. Yet it continues to be asserted that a basic problem of American industry can be laid to the lack of interest and commitment of workers. For most of this century it has been said that they are alienated from the goals of the company, the specifics of the job, from work and from society. A solution to this alleged basic defect is again to be sought in organizing them into groups or teams or circles and delegating to the unit some of the production planning decision authority held by managerial and technical experts.

Yet, the old problems remain. There is still a basic value premise. While it might be argued that in the long run American workers have the same stake in the prosperity of the firm and the economy as do employers and managers, the large majority of workers live in the short-run. Further, an assertion that the goals of individual workers or of work teams are, or should be, the same as the goals of the firm and its managers is a value premise and no more. In an earlier time a worker's social identity was given by the ready identification of his occupation. The drive to achieve an occupation or a "calling" was continually prodded by images of brave men facing hostilities from every direction on all sorts of new frontiers. Such images are still projected in some of the rhetoric of politicians and owners of enterprise. But by-and-large the exhortations fall on deaf ears. The fact is, the more or less

temporary, classified and evaluated, paid-by-the-hour jobs of the large majority of American factory workers simply is not congruent with the legends of opportunity of 50 and 100 years ago. Yet the old myths and the old views persist.

Indeed, it can be argued that a significant proportion of factory workers carry out detailed and measured functions rather than perform work. In a very real sense, the machines and systems which they operate and the organizations in which it all occurs are the sources of the product, not the workers. The term "occupation" is much better applied to those whose employment constitutes a career relatively free from the vagaries of the labor market and the arbitrary actions of employers and their agents. Loyalty and commitment to the goals of the firm are more likely to be enhanced for such workers than for function performers or job holders.[7] Even the most autonomous work groups are still bound by the constraints of the technology and the rules of the organization designed to operate that technology. A look at blue collar employment arrangements in countries with which we are often compared may be instructive.

A Comparative View

In Japan the basis of the job redesign movement, commonly referred to there as the "quality control circle movement", lies in so-called "life-time-employment". This is an employment security system which guarantees the regular workers employment in the same firm from the time of initial hire, typically directly from school or college, until retirement. About 30% of all Japanese workers in private industry are the beneficiaries of this secure status. Wages are characteristically paid not on the basis of one's job but on the basis of length of employment which correlates highly with age. While in recent years some Japanese employers have introduced a so-called "job wage" system, close examination of the components of this wage reveals a very heavy influence of age and length of service criteria. Measured ability accounts for substantially less than ten percent of the wage of the typical worker in large-scale private Japanese industry.[8] Neither Japanese firms nor unions emphasize job evaluation as a basis for wage payment. Even where the so-called job-based wage system is found in Japan, workers are paid on the basis of the number of jobs they can do rather than on the complexity or skill required of any one job in ordered relation to all others.[9] This is very different from the American system which at least since the days of Taylor essentially has assigned pay to jobs and not to workers. While the Japanese encourage versatility, Americans tend to reward expertise and specialization as we rationalize jobs into the smallest measurable tasks and hold workers accountable for the performance of each task.[9] While work performance in Japan constitutes career development, in the U.S. seniority on the job is the basis for the employment security of most workers. In Japan the job redesign movement, including the quality control circles, actually constitute a career enlargement program rather than job enlargement.

Yet even in Japan, as reported by Cole, it is not all clear that worker participation in quality control circles and production decision has directly contributed to increased productivity.[10] It seems likely that where worker productivity has increased it may be the result of the so-called "halo effect" first noted by Roethlisberger and Dixon in the Hawthorne Western Electric studies.[11] Production may very well increase merely because someone is paying attention to the workers and not because of changes in work procedures or worker participation in decisions.

Japan's emergence as the world's third largest industrial nation was accompanied by an annual productivity growth rate averaging 6.8 percent between 1960 and 1977 when it began to decline. Rather than being the result of some special Japanese work ethic or special features of Japanese society which derive from family metaphors, the productivity advancement is largely due to the acquisition of the most advanced foreign technology available on world markets through systematic efforts to obtain nonproprietary information and to arrange patent and licensing agreements. These purchases have been buttressed by vigorous government support of research and development efforts that concentrate on commercial applications and early economic payoff. Further, Research and Development programs in universities,

industry and government have also concentrated on commercial applications and early pay-off. Considerable support is given to new manufacturing technologies such as automated machinery which drastically reduce production costs. While one of America's leading manufacturers of consumer electronic devices was still advertising its products as "hand made", which presumably guaranteed superior quality, Japanese competitors such as Sony and Panasonic (Matsushita) were using advanced automated technology to produce for the same American markets. Recently, Japanese government-sponsored programs have been introduced to help small companies acquire advanced automation.

Some Japanese industries have been rebuilt several times since the end of the Pacific war and now incorporate the most modern technology available anywhere. The steel industry is a prime example. With more than 80% of its 1975 steel tonnage produced in basic oxygen furnaces, a ratio now even higher, Japan has a clear technological edge in this industry. More than ten years ago while the Japanese steel industry was replacing virtually all open hearth furnaces with basic oxygen converters, at least one major American steel maker was investing huge capital outlays in constructing larger and more efficient open hearth furnaces with productivity at best about one-quarter of the basic oxygen process. However, the American firm would not have to buy or license the much more advanced European technology but could support the general industry efforts to get Congressional relief from lower cost steel imports. Indeed, this American industry closes obsolete plants and abandons whole communities while getting government protection rather than investing what is necessary to successfully compete. In both countries, steel industries have had to invest heavily in pollution control and environment protection technology. In addition, there is a major difference in how new facilities are financed. Japan relies more heavily on debt financing of its capital investments than on equity and retained earnings. The Japanese policy encourages capital outlays for new plant and equipment at the same time that it encourages reducing prices when demand slackens in order to maintain high rates of capacity utilization rather than insisting upon high rates of earnings to be retained as equity. The Japanese allocate an impressive share of their resources to capital investment. Between 1960 and 1975 Japan invested 29 percent of its gross domestic product in new plant and equipment compared to 15 percent in the U.S. These data lend strong support to the proposition that technology continues to be a very large source of high productivity in manufacturing industry. This may also be the case in other countries which now outproduce American industry.

In Japan as in Sweden, job redesign and worker participation programs have been most successful in those industries and firms experiencing the most severe turnover and recruitment problems. In other words they have been most successful where the problem of retaining or recruiting competent workers have been the greatest. In the U.S., however, with large pools of available labor, employers commonly accept the view that replacement is easier and more economical than developing programs which increase worker commitment but which may or may not increase productivity. Thus, American employers tend to search incessantly for ways to reduce replacement costs through the route of task or work simplification. This, of course, is a managerial strategy diametrically opposite to the Japanese or the Swedish. This is a strategy which continually promotes the basic tenants of scientific management rather than enhancing worker security through career development.

Sweden

While about one-third of all Japanese workers in the private sector have effective income security, Sweden's welfare state provides what is probably the most comprehensive social security system in the world. Workers assembling Volvo automobiles at the Kalmar plant do so as members of so-called "autonomous" work groups rather than assembly line workers, a development generated by high absenteeism and turnover, poor work quality and strikes. It appears that participation in work teams and the teams' participation in job decisions have increased production efficiency, subject to constraints imposed by management's production quotas. However, some observers have noted that both Volvo and Saab have initiated their autonomous work-group designs

as a way of encouraging workers to cope with an accelerated work pace. In any case, these events occur in a production system where economies of scale are fractions of the American counterpart.

In addition to very large investments in social overhead, in 1972 the Swedish parliament enacted a law making employees essentially "fire-proof" after six months on the job. Other laws, including one that requires that workers have minority representation on their organization's board of directors, also reflects a social-imperative view in Sweden about innovation in industrial democracy. In contrast to the U.S., Swedish employer opposition to unions is virtually non-existent; 90% of Sweden's blue-collar workers belong to unions affiliated with the national Swedish trade union center and employers are also highly organized. Sweden has long faced a labor shortage resulting in a heavy emphasis on developing a native labor force rather than importing workers and on maintaining full employment. The standard of living is either the highest or the second highest in the world. In this situation it would appear that workers are more prepared to experiment with job design programs than in the U.S. where employers face labor surpluses and workers significantly greater risks of unemployment and general social insecurity.

Yugoslavia represents another model of worker self-management. But it occurs in an ideological and political context which is utterly unacceptable to American managers. In Yugoslavia the building blocks of workers self-management are ownership of enterprise by their workers and the creation of workers' councils within each enterprise. The councils create and maintain the basic policies of the enterprise including the selection and the rights and duties of directors, internal organization structures, financial management and capital budgeting, annual, operating plans, the basis of compensation and all the other functions normally carried on by management. Within this formal and legal workers' council system, workers design, control, and guide their own organizations. In 1965, the government created market mechanism when prices were deregulated on a variety of product categories and firms were permitted to retain a large part of their earnings for discretionary purposes. Enterprises are now expected to make investments in response to market forces. Thus, while both Sweden and Yugoslavis have mixed market-socialist economies, (although Yugoslavia's is more highly regulated by the central government) they achieved the mixed model from opposite directions. Sweden moved from free enterprise to a social welfare state while Yugoslavis developed market incentives out of a tightly controlled Soviet model of centralization. Worker self-management is mandated by Yugoslav law and reaches directly into the work place. Yet, it is not clear that workers are in fact in control of all decisions necessary to run an enterprise. There is evidence that they tend to defer to appointed professional managers on many matters, a development that presents formidable problems for workers self-management. In any case, the Yugoslav model is not likely to influence short-run developments in the U.S.

Like the Yugoslav system, German workers' participation in enterprise management is formally and legally mandated by law. Co-determination and workers' council systems guarantee that worker representatives will participate equally with management, unless otherwise stipulated by collective agreements, in a very wide range of business decisions: in wage determination and systems of wage payment, matters involving working hours, unemployment compensation schemes, training and accident prevention programs, allocation of employer-provided housing and similar social matters. Where statutory rights are involved, labor courts provide final decisions in cases of conflict. In areas concerning working conditions, the worker organizations must be informed and consulted including matters relating to the design of jobs. The works council has the right of codetermination in man-machine problems and must be consulted regarding manpower planning, including guidelines for recruitment, tranfer, dismissal, and related matters. In a very large measure German workers participate in management through mandated organs on issues very much like those dealt with through collective bargaining in the U.S. It appears that the German system of formal worker participation in industry is not more geared to job redesign and productivity than is the case in the U.S. At least there is no evidence whatever that the German arrangements have raised production or worker productivity to a level higher than they might have been otherwise.

The United States

About 100 "Quality of Work Life" programs had been reported in the U.S. as of 1979.[12] These experiments vary in scope and purpose. Some are intended to deal with work monotony and increase productivity by redesign of jobs through enlargement, enrichment and rotation. Employee participation in management decisions about work systems is the goal of others. Many are probably designed by behavioral scientists as their own experiments without the active participation of the managers whose behavior they are intended to change. With a few significant exceptions, most are found in small or medium size non-union establishments though a few unions, notably the United Auto Workers, participate in the programs as part of joint labor-management committees. Various types of plans are predicted on the assumption that workers will contribute participation if there is monetary reward attached. Thus, Scanlon-type profit sharing plans or schemes which distribute cost-savings to production and clerical workers and managers alike have been adopted in perhaps 500 to 1,000 firms since the late 1940's. There is no reliable information on how many are still in existence. Plans intended to make employees part or whole owners in their employers' enterprises have recently attracted attention. The object, of course, is to give workers equity ownership as a financial incentive to take a greater interest in the performance of the firm. Another is to raise capital in closely held enterprises not able to finance capital investment through regular money markets. In a few cases, employee ownership has been advocated as a means to preserve jobs threatened by plant closures. In virtually all of these cases, employees are expected to accept some of the risks of ownership without the fact of it. In virtually no case is the approach of any of the foreign models taken.

Conclusion

While Japan, Sweden, West Germany, and Yugoslavia represent a different approach to worker participation and productivity, one common denominator characterizes them all. Namely, in each case participating workers as a class are protected from the risks of their social status as workers. They are guaranteed employment no matter what may be the outcome of their experience. In that sense, work represents in each case a career, not a job. In Japan, the guarantee and the career rewards versatility rather than narrow specialization, as well as length of employment. In addition the firm provides the minority of workers who are eligible, housing subsidies, education, medical care for themselves and their families, recreation facilities, special schools, twice and sometimes three-times-a-year bonuses amounting to six or more months of regular salary and still other social welfare benefits. Such programs replace, in part, national investment in social overhead at least for those provided with company-paid welfare. The commitment of workers to the goals of the firm is handsomely rewarded by the firms which employ them. All of this is consistent with a complex set of cultural values which in important ways set Japan and the Japanese somewhat apart from other industrial countries and workers. With the possible exception of the notion of career development for blue-collar workers, little else, if anything at all, would appear to be importable to the U.S.

Similarly with Sweden. More than any other industrial country in the world including Japan, the Swedish mixed socialist-capitalist economy guarantees workers security of employment and income and is committed to their welfare. Like Japanese workers, they are encouraged to develop versatility and utility. And like Japan the labor market is characterized by a long-term shortage of native workers, providing a substantial incentive to employers to husband scarce human resources through both material and social rewards. Yugoslavia worker self-management is mandated by formal and legal constraints in a society whose official ideology is Marxism.

A recent study of worker participation and human relations in Soviet enterprise, a study reported by a researcher with access to Soviet documents, draws some very interesting conclusions. From a comparative standpoint, it appears that a very striking characteristic of Soviet socialism and American capitalism are the relatively uniform problems of the work situation and the equally uniform views and efforts on how to solve them. The participation of both Soviet and American workers in self-management, including

the design of jobs and work is still very much problematic. Neither worker ownership of the means of production and legally mandated participation in managerial decisions, nor capitalist ownership of the means of production and the appeals to workers to be cooperators appears to have generated managers who see the role of managing as more effective or efficient when workers are included in the process. It is reasonable to assume that this conclusion may very well apply everywhere in the industrial world where the functional roles of managers and workers are distinctively different. The imperatives of technology and to a lesser extent the essential functions of designers and managers would appear to continue to be the determinants of productivity.

It is the conclusion of this writer that the current American experiment with participative management, joint-consultation, job enrichment, job redesign, improving the quality of working life and similar programs will fail as have past efforts designed for the same purpose. American workers are likely to continue to resist being transformed into cooperators with management in the effort to improve long term productivity. While such programs may be supported as efforts to make work and working more humane, the relation between increased humane treatment and productivity is still not clear. And, in the long run it is not likely that such programs, whether promoted as efforts to secure for workers some measure of democracy at the work place or to secure increased productivity, will be successful in replacing union organization and collective bargaining, a goal often on the hidden agenda of firms promoting job redesign and participative management. Significant and long term higher levels of productivity are likely to be the result of the design engineers and the new machines much more than the old ideologies dressed in new labels or of the new or old workers. In the final analysis it is my guess that one can find as many broken and rusty Datsuns and Toyotas put together by job enriched and redesigned Japanese workers as there are old Pintos and Vegas assembled by alienated Americans. It is not at all clear which is the better buy.

Footnotes

1. Reinhard Bendix, Work and Authority in Industry. New York: Wiley, 1965.

2. Frederick W. Taylor, The Principles of Scientific Management. New York: Harper, 1911.

3. Bendix, op. cit. pp. 274-87.

4. Martin Trow, "The Second Transformation of American Secondary Education, International Journal of Comparative Sociology 1961, 2, pp. 144-166.

5. Abraham H. Maslow, "A Preface to Motivation Theory," Psychosomatic Medicine, 1943, 5, p. 85.

6. F. J. Roethlisberger and J. W. Dickson, Management and the Worker. Cambridge: Harvard University Press, 1947.

7. The Wall Street Journal (May 9, 1980, p. 1) reported the experiences of auto industry managers recently layed-off. Typical of many others was the executive who called into question traditional assumptions about his former status: "Whatever happened to working hard and getting ahead? ... It was the blackest hour of my life" ... when he learned the 14-year job he called a "career" was over. "What was a value is no longer a value," he said.

8. See N. Funahashi, "The Industrial Reward System: Wages and Benefits" in K. Okochi, B. Karsh and S. B. Levine, Workers and Employers in Japan. Princeton: Princeton University Press, 1974, especially pp. 373-379.

9. By way of contrast, a major issue in the recently concluded 5½-month strike at International Harvester was the company's demand that workers be severely limited in the number of allowable job transfers.

10. Robert E. Cole, Work, Mobility and Participation. Berkeley: University of California Press, 1979, pp. 125-7.

11. F. J. Roethlisberger and J. W. Dixon, op. cit.

12. "A Proposed Program for Encouraging Labor-Management Committees and Other Innovations in Work Organization Prepared for the National Productivity Council," Office of the Assistant Secretary for Policy, Evaluation and Research, U.S. Department of Labor, August, 1979.

REACTION
TO
DEFINING PRODUCTIVITY: SOCIAL VIEWS

J. Marlowe Slater

It seems to me that Professor Karsh is saying that his analyses led him to a conclusion somewhat like the following:

> Among the variables that correlate positively with increased productivity, none are so powerful as is technological advancement, and even though combinations of social, political and economic variables may influence productivity in selected countries, those combinations lack viability here because the American setting does not include guarantees of life-long relationships for workers.

If that is where we stand now, it seems that those who are impatient with the speed of technological advancement, but want to see steady increases in productivity, might be well advised to consider what insights are to be gained from a variation in research methodology. The purpose of the variation in methodology would be to explore the manner in which American workers and managers presently conceptualize their respective roles as workers - consumers in this setting.

My referent here is to methodology being used by British sociologists to examine the impact of education in England, particularly among secondary school students from the working classes. Christopher Hurn (1976) describes it as a phenomenological effort to reassess the various transactions and negotiations which characterize the school experience for headmasters, teachers and students. As I understand it, the goal of this methodology is not to identify combinations of predictor variables which relate to school performance, but rather to go back to square one, if you will, and try to expand understanding of the reality which exists for the primary participants in the enterprise.

My crystal ball is cloudy, but if one were to make such an attack on the issues to which Professor Karsh addressed himself in his paper, one can illustrate what the nature of the research questions might be and can discuss some of the underlying assumptions which would be held by the researchers.

For example, one would ask, "what views are held by workers and by management as to their role as consumer and as producer? One would ask also "what is the position of work in the life-space of the worker?" The evidence gained from each such question could have value for both the sociologists and the vocational educator. Answers to the first question would be analyzed for consistency (or its absence) in the views of the self as producer object and the self as consumer object. For the sociologist, inconsistency may provide clues as to new variables that will have significance in a prediction equation. For the vocational educator, consistency between views of self as consumer and views of self as producer will provide clues about gaps in curriculum to which we are presently insensitive.

The second question does not seek so much to check respondents' views of the work ethic as it does to reveal for us the impact of layoffs, arrangements for unemployment compensation, etc. upon the people whose efforts are presumed to be reflected in productivity statistics. These are policy issues for the sociologist, the economist and the political scientist. They may prove to be substantive curriculum issues for the vocational educator. If, as I would hypothesize, jobs have come to have interchangeability for the masses of workers then much of the occupational specificity in our curriculum may be subject to challenge.

As for the underlying assumptions in such research, this approach views the role participants as having intellectual as well as social and economic motivation. It assumes (1) that persons are motivated by a desire to understand better the situations in which they are highly involved, and (2) that new patterns of behavior result as persons act upon their new understandings. It is these assumptions which prompt the thought that phenomenological input may have significance for those we identified above as persons who are impatient with the speed of technological change.

In summary, what is suggested is that the combinations metaphor which has dominated research in this area be supplemented with an introspective look at the context in which productivity gains its significance. The objective is not only to review extant ideas, but to identify those facts of significance which key persons attribute to the concepts of work and productivity in the American setting of the 1980's.

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Defining Productivity: Worker Views

Walter H. Franke

It is not difficult to state the worker view of productivity. Workers and their representatives hold the common view of productivity as the quantity of output obtained in a given time period with the labor and other resources devoted to the purpose. Interest in worker views of productivity stems not from any unique conception they hold of what productivity is but from their views about what they should or will likely gain from it, how their own productivity should be measured (if at all), and what their response would be to efforts to improve it. Each of these subjects -- labor's or the worker's appropriate share, problems of measurement, and situations that condition worker attitudes and responses to measures to increase productivity -- are significant elements in a nation's productivity experience. Due mainly to personal interest, I will focus in this paper on the last of these topics. First, however, a brief reference to the sources of productivity increases will be helpful.

Sources of Productivity Increases

About a year ago the U.S. Department of Commerce, in a statement to the Joint Economic Committee of Congress, attempted an analysis and explanation of the decline in productivity increases in the 1967-77 period compared with the earlier 1950-1967 period. The conclusions were as follows.[1] About 20 to 25 percent of the decline was attributable to the end of the "one-time" shift in the labor force from farming to higher productivity sectors of the economy. Another 20 to 25 percent was due to a shift towards a younger, less-experienced work force.[2] Further, over 90 percent of the decline in nonfarm (private) productivity growth was accounted for by the "collapse of productivity"[3] in the construction, mining, and the wholesale and retail trade industries.[4]

If these estimates are roughly in the correct ball park, they suggest the following broad conclusions. First, productivity increases are heavily dependent upon structural changes in the economy and the reallocation of labor into high productivity sectors. The figures suggest that the ending of the farm to nonfarm shift has not been replaced by an equally important and necessary industrial transformation. Second, an equally important element in the maintenance of high productivity growth is the quality of the labor force. The Commerce Department report suggests that the productivity decline attributable to the growth of new and inexperienced workers should be reversed over the next 10 to 15 years as the "baby boom" workers mature. Third, if structural change in the economy continues to fail to provide a productivity-increasing development comparable to the farm to nonfarm shift in importance, future productivity increases may become increasingly dependent upon improving individual (worker) productivity at the firm or plant level.

There are other trends that make urgent the improvement of productivity at the plant or firm level. One is the increasing importance of foreign competition. Between 1973 and 1979 the value of imported manufactured goods as a proportion of domestic Gross National Product increased by about a third.[4] Steel and auto makers are recent recipients of the sting of foreign competition, and there have been others before them. A second trend is the markedly rising education of the work force. In the five years from 1973 to 1978 the proportion of the labor force with at least one year of college increased six percentage points to 34 percent. Over the 10-year period ending in 1978 the percentage of blue-collar workers with college degrees increased 90 percent to 6.6 percent of the total.[5] The increasing educational attainment of the work force is likely to be correlated with greater demands for "appropriate" work and rewards and more complex industrial relations at the plant level. A third factor is the high and rising cost of energy, which makes the introduction of productivity-increasing technology more expansive, less profitable and less likely. Cheap power is no longer the rule, and until that is reversed the sources of increased production and productivity will be related more to human than to machine productivity.

These factors--the end of the farm to nonfarm shift, increased foreign competition, and more highly-educated work force, and the rising cost of energy--suggest that better management, more effective labor-management

relations, improved worker morale, and greater individual worker productivity (that is, dedication and effort) may be important elements in reversing the productivity trend. If so, worker views of productivity and their responses and behavior based on these views will be keys to the results of any efforts to improve productivity, as they will be to the likelihood and extent of future structural economic and industrial change.

Worker Concerns

The predominant worker value and concern that colors workers' views about productivity is job security and protection. The nature and extent of this concen is revealed and documented in the attitudes and behavior of both blue- and white-collar workers and among both the organized and unorganized.

Surveys of worker attitudes and opinions about their jobs consistently reveal the priority given to job security. The most recent of these was conducted in 1977.[5] The survey shows that among union members, job security ranks only a bit behind wages and fringe benefits as substantive issues that they feel their unions should be putting "a lot of effort" into. Further, other than for the issue of fringe benefits, unions were judged by members as falling shorter of meeting members' expectations of union performance on the issue of improving job security than on any other substantive issue.

The concern with job security is also revealed in the informal behavior of working groups. Frederick W. Taylor, at the turn of the century pointed to the tendency of groups of unorganized workers to engage in "systematic soldiering ..... with the deliberate object of keeping their employers ignorant of how fast work can be done."

> So universal is soldiering for this purpose, that hardly a competent workman can be found in a large establishment, whether he works by the day or on piece work, contract work or under any of the ordinary systems of compensating labor, who does not devote a considerable part of his time to studying just how slowly he can work and still convince his employer that he is giving at the good pace.[6]

This tendency of individuals and groups to withhold effort, restrict output, and resist change noted early by Taylor and others since then is, in part, an effort by workers to protect themselves against perceived limited work opportunities and to increase their employment security by making the existing work last longer.

The centrality of the job security issue is further revealed in the origins of American Unions. Selig Perlman, writing in 1928, found the key to the growth of American trade unions in their response to the basically pessimistic psychology of the manual worker. The "scarcity consciousness" of the manualist is a product of his awareness of his own limited capacity for exploiting economic opportunities and his view of the world as one of limited opportunity -- almost always providing fewer jobs than the number of job seekers. And the trade union flourished, according to Perlman, when it abandoned its "anti-monopoly" ideology and adopted a "job control strategy of regulating the worker's relation to his job, attempting to create for its members an ever-increasing sphere of economic security and opportunity."[7]

That "scarcity consciousness" and job security are still at the center of worker concerns is shown not only in contemporary surveys of worker attitudes but also in contemporary trends in provisions of collective bargaining agreements and in the priority goals established for current negotiations. Workers and unions have increasingly pressed successfully for benefits in the form of shorter work years and work lives, efforts which reflect their concern for preserving the number of jobs available for union members. Surveys of major collective bargaining agreements show that contracts providing for 10 or more holidays per year increased from seven percent of the total in 1966 to 59 percent in 1978, and over the same period those providing 12 or more holidays increased from three percent to 17 percent. The same pattern prevails for vacation time--from 1966 to 1978, the percentage of contracts

providing for maximum vacations of four weeks per year increased from 50 percent to 79 percent, for five weeks from two percent to 53 percent, and for six weeks from none to 16 percent. Nearly all contracts (97%) have provision for voluntary "early" retirement, most commonly at age 55, and nearly one-third provide for "special" early retirement benefits by mutual consent or when displacement by plant shutdown or layoff is imminent.[10]

Worker and union efforts to build increased job security into their contractual arrangements continue unabated to the present time. Job security issues were a major negotiating priority in the 1979 auto negotiations, where movement toward the four-day week continued, and are high on the list of union demands in 1980 in the basic steel, aluminum, communications and other industries. Examples of current job security demands in these industries include prohibitions against subcontracting, abolition of mandatory overtime, doubletime for all overtime, a shorter work year, a union voice in the introduction of new technology, elimination of monitoring and measuring of work in order to reduce "job pressures", and penalties for plant closings that occur with less than one year's advance notice.[11]

It is only through the vehicle of the trade union that the security needs of workers are revealed. The observations of Fredrick Taylor on "soldiering" by individual workers have already been noted. Further, the importance of the informal work group on performance and output has been frequently documented.[12] And Bok and Dunlop note that "in the reactions of many businessmen toward lowering tariffs, the hostility of many doctors toward group practice, and the opposition of lawyers toward insurance schemes for compensating automobile injuries without litigation, one sees how pervasive is the tendency to resist new ways that would abolish old privileges."[13] And even professors, who now find themselves in a declining industry, are not only typically not in the forefront of proposing productivity increasing schemes for higher education, but are increasingly searching for ways to protect their job and income security.

What explains the apparent pervasiveness among workers in establishing and maintaining rights in an existing job? Obviously, there is a pervasive concern that the many rights and privileges conferred by an existing job--status, current earnings levels, pension rights and others-- will not be fully replaceable if the current job disappears. The concern is fortified for many workers through their direct experience with layoffs, workforce reductions and plant shutdowns and for others by the publicity given to the pathological aspects of economic developments. Bad news gets more attention and has more impact on attitudes and behavior than good news. Recently, economic news reporting has emphasized the closing of plants in steel, rubber, and other industries, runaway shops to the Sunbelt and foreign climates, declining sales of American-made cars, anti-inflationary economic policies designed to produce a recession and falling employment, and in the public sector Proposition 13 and similar actions which reduce employment opportunities in public services. Although many of these publicized events may be small problems in the context of total employment opportunities available, Drucker suggests that their negative consequences to particular individuals, communities, or sectors infect the entire labor force with fear of redundancy.[14]

To the extent that these fears exist, workers will resist the structural changes required for productivity increases and will be suspicious of schemes for increasing productivity at the level of the firm. Recent examples of response to threatened structural change are the guaranteed government loans to "save Chrysler", UAW efforts and proposals to restrict foreign automobile imports, particularly from Japan, and the introduction of legislation[15] at the federal level to regulate the process of plant shutdown. Pronounced reactions to productivity schemes at the plant level are seen in the lengthy 1959 steel strike, which occurred over the issue of management proposals for reduced crew sizes, and in the recent five-month International Harvester strike on the issue of mandatory overtime. Harvester's proposal for mandatory overtime was designed mainly for efficiency reasons, and the union's resistance can be viewed, at least in part, as an effort to preserve the number of existing jobs for its members. And judging from scattered reports, growing efforts by managements to measure the output and productivity of various categories of white-collar workers are progressing slowly, in

part because of the resistance of white collar workers to having their output measured.[16] To be sure, there are also reports of successful plant-level plans involving the cooperation of workers and unions in improving productivity.[17] And a large number of joint labor-management cooperation committees have been established to address plant-level work issues of a wide variety, including productivity. In a recent survey of such committees in Illinois enterprises, my colleague Milton Derber reports a substantial number of such committees in Illinois and elsewhere "engaged in various types of generalized cooperation, problem solving activities." Self-evaluation of the results of these committees by participants revealed claims by some that they had positive effects on productivity. But Derber notes that information on experience with such committees remains scanty[18] including the conditions under which their work is effective and enduring. We shall return to their topic in the context of worker concerns about job security after reviewing the general ways in which worker concerns with job security have been addressed.

Facing the Job Security Issue through Governmental Actions

If, as argued above, the job security issue has primacy among worker concerns, the possibilities for productivity increases would appear to be enhanced in a working environment in which workers perceive reasonable freedom from fear of loss of job, status, and income. Although such an environment does not guarantee enthusiastic worker responses to technological change, structural change, or plant-level productivity schemes, it would provide one of the important conditions for cooperation. Collective bargaining is one method by which workers have attempted to secure such an environment. Collective bargaining, however, is limited in the extent to which it can deal with job security issues by its limited coverage (about one-quarter of employees in nonagricultural establishments), its sectoral orientation and therefore its limited sphere of influence, and its limited power to overcome many of the forces adversely affecting worker security. Legislation and governmental programs offer another route, and there is a substantial body of law bearing on the issue which will be only briefly reviewed for its relevance and impact.

The Humphrey-Hawkins Full Employment Act of 1978 contains the commitment of the nation to a full-employment economy and procedures for policy making designed to attain the established goal. Although the act is important as a statement of national goals, the methods and policies for attaining the goals remain strong issues of contention, and to judge from recent statements and actions of the current administration, even the full-employment commitment is weak. Consequently, the act has little, if any, impact on worker views or behavior. Indeed, governmental actions which themselves have a destabilizing economic impact have much greater influence on worker perceptions of job opportunity and security. Reversals or drastic changes in such governmental programs as space, defense, highway construction, mass transit, housing energy and revenue sharing contribute much more to worker attitudes than statements of national goals.

The basic governmental support program for workers displaced or separated from their jobs is unemployment insurance. This program provides partial and temporary income replacement, normally for up to six months, for the covered unemployed. Closely related to the unemployment insurance program are the some two dozen "special jobless aid" programs designed to meet the needs of certain groups of the unemployed, of which those displaced from their jobs because of increased imports are the most important. These special programs were designed to assist worker adjustment to structural changes, and although they include provisions for training and relocation, they have operated mainly to give the unemployed in the designated categories higher compensation for longer periods of time than that provided by the regular unemployment insurance program. Arnold Packer, Assistant Secretary of Labor, has noted that the needs of the "permanently" displaced worker are not adequately met by compensation nor do compensation programs promote the efficient use of resources. He argues the need for "positive adjustment policies" which would " provide incentives for workers to adjust, to shift to new jobs or move to other communities, and would give incentives for new or expanding firms to relocate in declining communities and/or to hire permanently displaced workers."[19] Perhaps it is fair to say that temporary income replacement programs, if they do not generally result in the attainment of a

new job of comparable worth to the job that is lost, are not successful in meeting the workers' need for job security nor do they contribute significantly to productivity improvement. Drucker's conclusion about the role of unemployment insurance is that "Economically it has been a vast success. But psychologically it has been a failure. It does not do what it was primarily designated to do: give emotional security."[20]

During the past two decades, federal manpower programs have expanded many-fold as a central governmental program for dealing with underemployment and unemployment. Designed initially as a response to structural unemployment and technological displacement, their thrust soon shifted and remains today that of providing entry level jobs to the "disadvantaged," either through training or work experience. As currently operated they contribute little to reducing worker concerns about job security, and evidence regarding their contribution to productivity is weak.

Finally, equal employment opportunity legislation, particularly Title VII of the Civil Rights Act of 1964, establishes important employment rights for women and minorities with respect to hiring, pay, promotion and job retention. While these rights no doubt have contributed to improved employment opportunities and enhanced the job security of the protected groups, they leave the target groups subject to the same forces of economic change that cause the concern about job insecurity among workers generally.

These and other legislated programs represent a substantial public response to the problem of job insecurity. For the reasons indicated, however, they have failed, despite their major contributions to specific problems, to produce the work world security that is, or may be, a precondition for long-run productivity improvement. Is such a world possible?

The Task

Fortunately, my assignment does not appear to require prescription -- only definition. The prescriptive problem that flows from the discussion of this paper is the appropriate responses to continuing and probably growing pressure and need for worker protection programs -- responses that will allow, even encourage, increases in the productivity and incomes of workers and businesses. Since my task is not prescriptive, I know you do not expect me to provide the answer. We might, however, briefly consider some possible directions.

One approach receiving increased attention from U.S. businessmen is the Japanese use of quality control circles (QC[3]), small groups of workers who meet regularly with management representatives to discuss and find solutions to production problems.[21] The use of QC[3] in Japan is linked to their system of "lifetime employment," a system which features strong worker identification and commitment to the company. Robert Cole, a close examiner of the Japanese employment system, appears to feel that the QC approach, with some modification, may be adaptable to American conditions.[22] Our discussion of worker attitudes would suggest that a key to the long-term success of QC[3] in the American setting is overcoming job security concerns. As in Japan, where "lifetime employment" is a privilege of the minority of the work force employed by the large, major firms, we might expect QC[3] to have the greatest prospects in American firms and industries with stable and growing employment. The prospects are dimmer in industries like steel, autos, rubber, and construction, where plants are closing, employment is declining, or demand is volatile. The QC approach seems to put us back at square one.

Joint labor-management cooperation committees, briefly mentioned earlier, are another approach to productivity improvement apparently growing in use. In contrast to the QC approach, rank and file workers seldom participate directly in the work of these committees.[23] In so far as productivity improvement is an objective of these committees, which is apparently the case for only a minority of those in existence,[24] success, again, would appear to be strongly linked to job security concerns.

The industrialized nations of Western Europe have generally experienced more favorable productivity trends, developed more comprehensive worker protection plans, and operated their economics closer to full employment and

with less inflation than has the United States. Perhaps there are some lessons to learn from them. In recent years, however -- since the 1974-75 recession -- most Western European countries have suffered from the same problems of high unemployment, inflation, and low economic growth that afflicts the U.S. In response to this trend, the European Trade Union Confederation in 1977 commissioned a group of trade union economists from five European trade union federations to "explore" the problem. The result of their exploration was a discussion paper that outlined "a new economic program" and which may provide the basis for future initiatives by European labor unions.[25] The report rejects, in part, both neoclassical economic theory and standard Keynesian analysis, as well as traditional socialist ideas, as adequate explanations of how modern economies work or as bases for economic policy. It is difficult to briefly summarize what they propose to substitute, but among the chief ingredients are selective governmental intervention in setting particular price and investment levels for industries or key corporations, worker and trade union participation in top-level company decisions, and giving workers collectively a share in and responsibility for both savings and investments. The general argument is for "consensus-based" economic arrangements as a substitute for management-only decisions or traditional collective bargaining. With respect to productivity the report argues that "productivity is only partly dependent on technology" and "to a much greater extent that is often recognized it also depends on labor relations and the degree of consensus achieved inside a company and in society at large."[26]

A basic assumption that appears to underlie this proposal is that wider participation, and particularly greater worker/union participation and responsibility in making major economic decisions, will result in a better productivity record. The report also argues that the prescription it presents is "a way out of current and prospective stagnation." Be that as it may, American unions have traditionally shown little interest in participation in management of the firm. Unless Douglas Fraser's seat on the Chrysler board of directors is only the first straw in the wind, or unless the coming recession turns to deep depression, radical restructuring of responsibility for economic enterprises and massive governmental intervention into price, wage, and investment decisions are not likely soon to become permanent parts of the American landscape.

Finally, some observers see the solution to the problems we have been addressing in planning at the local level. This is the approach proposed by Drucker in his call for "redundancy planning," led by managements at the local level and involving anticipation of structural changes affecting employment, finding new employment opportunities for those laid off, and counseling, retraining, and placing them.[27] This is also part of Willard Wirtz' proposal in his book The Boundless Resource for the development of an "education-work policy" and the establishment of Community Education-Work Councils in which various segments of the local community could collaborate in developing education-work programs.[28] These proposals obviously entail formidable organizational problems and the articulation of new and unfamiliar roles for business and other community leaders.

I have stuck to my task and provided no answer. In the American setting there is not likely to be an answer. The story of this paper is that job security concerns of workers are primary, existing policies and programs have not met these concerns, and future productivity gains will importantly depend upon accounting for these concerns.

Footnotes

1. Reproduced in Bureau of National Affairs, Daily Labor Report, March 8, 1979, 47, pp. X-7 - X-10.

2. No effort was made to attribute proportional shares to specific causes for the remaining 50 to 60 percent of the decline in productivity increases.

3. The Commerce Department analysis offered little documentation for the causes of negative productivity trends in these industries. The report noted above average influxes of new, inexperienced workers into construction and coal mining. Also cited for coal mining were mine safety and health regulations, reclamation statutes, new union rules, and the reopening of marginal mines. Reasons for the decline in trade seemed to be a mystery.

4. Joint Economic Committee, Economic Indicators, Washington, D.C.: U.S.G.P.O.; 1980, pp. 1, 35.

5. Scott Campbell Brown, "Educational Attainment of Workers--Some Trends from 1973 to 1978," Monthly Labor Review, February 1979, pp. 54, 58.

6. Summaries of the 1977 Quality of Employment Survey are reported in Graham L. Staines and Robert P. Quinn, "American Workers Evaluate the Quality of Their Jobs," Monthly Labor Review, January, 1979, pp. 3-12 and in Thomas A. Kochan, "How American Workers View Labor Unions," Monthly Labor Review, April, 1979, pp. 23-31.

7. Kochan, Ibid., p. 29.

8. Testimony before the Special House Committee, quoted in Derek C. Bok and John T. Dunlop Labor and the American Community, p. 269.

9. Selig Perlman, A Theory of the Labor Movement, 318 pp.

10. Bureau of National Affairs, Collective Bargaining Negotiations and Contracts.

11. Summaries of bargaining goals and demands formulated for 1980 bargaining by the Communications Workers of America (CWA) for the telephone industry and by the United Steelworkers (USA) for the basic steel and the aluminum industries are reported in Bureau of National Affairs, Daily Labor Report, March 11, 1980, 48, pp. A-8 - A-9 and March 13, 1980, 51, pp. A-7 - A-9.

12. Delbert C. Miller and William H. Form, Industrial Sociology: Work in Organizational Life. New York: Harper & Row Publishers, Third Edition, 1980.

13. Bok and Dunlop, op. cit., p. 269.

14. Peter F. Drucker, "Planning for 'Redundant' Workers," Wall Street Journal, September 25, 1979.

15. S. 1609, The Employee Protection and Community Stabilization Act of 1979, is one example of proposed legislation for regulating plant shutdowns.

16. See, for example, Lawrence Rout, "White-Collar Workers Start to Get Attention in Productivity Studies," Wall Street Journal, August 7, 1979.

17. See, for example, Karl Frieden, Workplace Democracy and Productivity, recently released by the National Center for Economic Alternatives and summarized in BNA, Daily Labor Report, March 10, 1980, 48, pp. A-10 - A-12.

18. Milton Derber and Kevin Flanigan, "A Survey of Joint Labor-Management Cooperation Committees in Unionized Private Enterprises in the State of Illinois, 1979: Part One," January 4, 1980, 28 pp. Mimeo.

19. "Statement of Assistant Secretary of Labor Parker Before House Ways and Means Oversight Subcommittee," reprinted in Daily Labor Report, February 21, 1980, No. 36, pp. E-1 to E-5.

20. Drucker, op. cit.

21. Earl G. Gottschalk, Jr., "U.S. Firms, Worried by Productivity Lag, Copy Japan in Seeking Employees' Advice," Wall Street Journal, February 21, 1980, p. 40.

22. Robert E. Cole, Work, Mobility, and Participation: A Comparative Study of American and Japanese Industry (Berkeley: University of California Press, 1979), pp. 254-63.

23. Derber, op. cit., p. 28.

24. Ibid., p. 9.

25. The report of this group is summarized in Everett M. Kassalow, "Beyond Keynes: European Unions Formulate New Economic Program," Monthly Labor Review, February 1980, pp. 36-40.

26. Ibid., pp. 38-39.

27. Drucker, op. cit.

28. Willard Wirtz, The Boundless Resource (Washington, D.C.: The New Republic Book Company, Inc., 1975), 205 pp.

REACTION TO DEFINING PRODUCTIVITY: WORKER VIEWS

David Black

I am going to try to provide some specificity to Professor Franke's paper from my perspective. I am also going to discuss our industrial nation's mass education philosophy and population trends for the future. The first thing that I want to point out very specifically is that I have some question in my mind about the ethics and the rationality of an educational institution dealing with an issue like productivity.

I wonder whether vocational education planners and career counselors understand what the purpose of public education was as it began in the 14th century. At that time, industry proposed a mass education system whereby young people were prefitted to the industrial system, which tended to ease the problems of industry in terms of discipline. Though older curriculum in the early 1800's became mass education's basic reading, writing and arithmetic, the covert curriculum that we should all be aware of happened to be punctuality, obedience and rote repetitive work. From the mid-19th century on, there was a relentless education progression. Children started at a younger age in school. The school year itself became longer, increasing 35 percent between 1875 and 1956. The number of years of compulsory education increased. Be that as it may, workers perceived mass public education as a humanizing step. Mechanics and working men in New York City in 1829 stated, "next to life and liberty, we consider education the greatest blessing bestowed upon mankind." I think that it is still a correct perception of workers' feelings, but not necessarily mine. The schools consistently machined generations of young people into a work force required by an electro mechanical technology and the assembly line. Family and schools formed a system for preparation of young folks for roles in industrial society. That seemed to be systematic of all industrial societies, be they capitalistic or communist.

Professor Franke's paper identifies a 20 to 25 percent decline in productivity between the 1967 and 1977 period. The decline in the earlier 1950 to 1967 period was, he states, "due to a shift toward a younger, less experienced work force." In the 1980's, the labor force is expected to grow by 15 million to 17 million. Obviously there will be more productivity because these people, if we use any of the numerous forms of subjective judgement, will be getting older and consequently become better workers.

Since Professor Franke used mining as an example in the early portion of his paper, I thought that perhaps we should use that as a means of specifying productivity in a specific industry. In doing that we should provide a definition of productivity that has been accepted by the industry.

Productivity in coal mining is determined by dividing numbers of total tons of coal shipped in a year by the number of man hours worked during a year. A number of conditions such as sickness underground or an overburdened strip, which affect production have little to do with either management or labor and little effect will be achieved by vocational education or by any institutional productivity planning. The easier it is to reach the coal, the higher productivity will be. The greater amount of coal easily available, the greater the efficiency of machines in getting that coal. Other factors are the age of the mine and its size. As the age of the mine increases, productivity automatically decreases. In general, there is a gain in output with increased size of operation, but little gain in productivity.

Management has acknowledged that they negatively affect productivity in their decisions about the use of equipment, in their attitude toward federal and state regulations, and in their relationship with workers. Labor's negative effects on productivity are as follows: strikes; lower number of days worked for productivity decreases; bituminous coal increase agreements which include many provisions designed to increase worker safety (which in a strict mathematical sense contribute to decreased productivity, at least, in a short term), and a lack of motivation among workers.

Fewer employees in underground mining urge their children to enter mines as apprentices. The family apprenticeship system at one time provided more of a feeling of pride, and its absence has increased the number of inexperienced miners. Inexperienced miners are generally less productive than experienced ones. The Health and Safety Act of 1969 has affected productivity levels adversely in the short run. Bear in mind that labor supported these and still does. Safe conditions in mines are necessary for increased productivity to reduce man hours lost to injury and to encourage workers to become miners to meet increased demands for the future. This is a very specific issue in the State of Illinois. That is why we became involved in it. M. D. Harold, Vice-President of Freeman United Coal Company stated "if productivity is to increase, safety must increase." Training more closely related to safety is a factor in terms of productivity. Training programs at a number of mines have improved safety records, thereby improving productivity. The addition of new mines will also increase productivity. It is projected that by 1985 in Illinois, 25 million tons will be added by new mines. These mines would be large, 1.5 million tons output, which will increase productivity in size factor.

This is all positive but we must recognize that productivity records of the past will, in all probability, not be exceeded in the future. That is subject to a change in technology. Strip mining in Illinois will not, in fact, exceed the 1960 levels because: 1) most of the easily mineable shelf deposits are depleted, 2) large capacity equipment being used accounted for the increased productivity, and 3) increasing land reclamation regulations mean the use of more people per ton of coal. I hope this provides some specificity in terms of an industry that has a low rate of productivity.

The job security factor which Professor Franke identified has special importance for people in America who happen to be of my peer group. I think it is, including wages, the most identifiable concern that they have. Bennett Harrison of the Massachusetts Institute of Technology and Barry Bluestone of Boston College reported that between 1969 and 1976, plant shut downs and relocations eliminated 15 million jobs and created over 16 million new ones producing a slight net increase overall. The new jobs, on the average, were: 1) lower paying, 2) in different regions of the country and 3) did not go to people left unemployed by shut-downs in the first place. Those affected by shut downs had an increased incidence of mental and physical illness, an increase in drug abuse, an increase in homicide, an increase in suicide, an increase in child abuse, and a severe economic problem. This should give you some indication of why we do provide protective clauses in contracts. Six years after the plant closings, workers who had found new jobs were making, in fact, less money on the average than before and the economies of the communities that they lived in remain depressed. Other principle findings in the studies include that odds are six in ten that any single plant in the United States could shut down within six years. This is the most salient factor in all of our problems. The majority of plants shut down are profitable. Owners shut down a plant because they wish to reinvest in higher profit ventures in the corporate structure. Government tax breaks designed to attract industry and jobs may, in fact, destroy public jobs because tax revenues are reduced from private industry owned.

Professor Franke's paper also, in my estimation, ends as does most which look at the issue of productivity--in a sense of frustration. He acknowledged he really had no answers. I would like to posture some predictions of the future and I do not have any more information than Professor Franke has. I just probably have a tendency to step out on a limb a little more. I think, first of all, that energy is a very specific issue in terms of productivity. I would posture that there will be a variety of energy sources that include hydrogen, solar, geothermal, biomass, lightening discharges, perhaps advanced fusion power and other technological forces of energy that we still do not know about in the future which will have a direct effect on factories. Factories will no longer be a model for other institutions as I have asserted that they were in terms of education. Factories will, in fact, not have mass production as a primary function. Advanced methods such as holistic and special production will be part of factory life. Factories will use less energy. Factories will waste less raw material, not because they want to do either of those things. They will have no choice. Factories will employ fewer components. Factories will have a demand for more design intelligence.

Factories will be found outside of giant urban metropolitan areas. They will be smaller than in the past. They will include smaller organizational units and they will have a higher degree of self management within these units. The paper work in offices will be substantially replaced by technology and that will create a worker who has to use more discretion in decision making levels. There will be a shift of work from office and factory back into the home because of technology and because of lack of energy resources. There will be an increased growth of intelligence and imagination in production reducing routine labor or group force. Factories will only be for those who must actually handle physical materials. Corporations will be recognized as complex organizations, pursuing multiple goals simultaneously, not just for profit and production quotas, and managers will be responsible for multiple bottom lines. I think this is wishful thinking, just hoping that corporate structures will, in fact, respond to reality.

Another thing that we will see is the aging of the population which is already apparent in the high technology countries. That implies greater attention to the needs of the elderly and reduced focus on young people which should directly affect educational planners.

Employers will need the following in a worker: workers who will accept responsibility, who understand how their work coincides with others, who can handle larger tasks, who adapt quickly to changing circumstances, workers who have a sensitivity to people around them, and who basically are what we are identifying as the young middle management types of structure in our current society. Workers will place a high value on what they do. Money for those workers will still carry prestige, but equally important will be self-reliance. Workers' ethics will include self-reliance, ability to adapt and survive under difficult conditions, and the ability to do things with one's own hands (which I think is a systematic change from the upward mobility factor that we are now experiencing).

These factors all relate to productivity in the factories. The complete worker, I think, will be a productive worker. That worker will serve as a part time worker, but will also be acknowledged as a part time consumer. There will not be a differentiation between roles. The worker will enjoy concrete along with abstract complimentary pleasures of both head work and hand work. In a positive sense, this identifies with Professor Franke's worker of today. That worker, who is hired with higher educational credentials, who may feel frustrated now, will be better suited to what I am posturing for the future.

II. ENHANCING PRODUCTIVITY

Increasing Productivity in the Small Business Sector

Robert E. Nelson

The Small Business Sector

The United States has the most developed and sophisticated small business sector of any country in the world. However, government intervention to develop this sector of the economy has been minimal. Owners of these small business firms may be called entrepreneurs because they have chosen to assume risks, identify business opportunities, gather resources, initiate action, and establish organizations to meet some demand or market opportunity. A distinguishing mark of entrepreneurs is that they tend to be independent and self sufficient, and they have some resistance to working with government or any other agency to meet common goals. Many entrepreneurs want to be left alone to operate their businesses in a very individualistic manner, and this factor presents one of the major barriers to providing help to the small business sector. Statistics[1] concerning the small business sector highlight the need for education in this area.

1. Of over 14 million enterprises in the United States (including farms, franchises, and professional firms), two million are corporations, one million are partnerships, and approximately 11 million are sole proprietorships.
2. Of the 14 million enterprises, 99.2 percent employ fewer than 100 persons.
3. Eighty percent of all small businesses fail within the first five years.
4. Nine out of 10 small businesses fail because of poor management. Specific reasons include lack of planning, inadequate controls, poor accounting methods, inability to read and understand financial statements, and inability to locate expert advice when needed.
5. Minorities form 17 percent of the total population, but own only 4.3 percent of all businesses and generate only .7 percent of all business receipts.
6. Women make up 48 percent of the work force, but own only 4.6 percent of all businesses and generate only .3 percent of all business receipts.

Clearly, there is a need for targeted educational programs for self employment, and vocational education is in an excellent position to provide these services.

Growth in employment depends, in a large part, upon the birth and expansion of small firms. Entrepreneurs have the ability to spark new ideas and new products that create businesses, which in turn create the need for new jobs. David Birch indicated in a recent study that between 1969 and 1976:

> On the average about 60 percent of all jobs in the U.S. are generated by firms with 20 or fewer employees; about 50 percent of all jobs are created by independent small entrepreneurs. Large firms (those with over 500 employees) generate less than 15 percent of all net new jobs.[2]

This study was based on Dun and Bradstreet's data files of 5.6 million businesses. From the results of this study, it appears that the smaller corporations are aggressively seeking out new opportunities, while the larger ones are primarily redistributing their efforts in existing business areas.

The Birch report indicated that small firms, despite their difficulties in obtaining capital and their inherently higher death rates, are the major generators of new jobs in our economy. In slower growing areas, small firms may be the only significant provider of jobs. Most economic development programs to stimulate new job opportunities have been aimed at relatively few large corporations. However, it is the thousands of anonymous smaller firms that are job providers in the older sections of our cities and also provide the major share of new jobs in the growing areas as well.[3]

It was indicated in the Birch report that not all small firms are equally productive and it was the smaller, younger firms that generated jobs. Once these firms got much over four years in age, their job generation powers

declined substantially. From the results of the Birch report, a profile of a job generating firm can be formulated; it is small, has been in operation less than four years, tends to be independent, and is volatile. This profile does not appear to vary much across industries or across regions of the country.

Needs of the Small Business Sector

Over 50% of all new businesses fail during their first two years of existence. This serious problem is compounded by estimates which indicate that over 50% of the money used to start new small businesses is generated through private sources such as personal family savings and borrowing from friends or relatives. The failure of a small business is a financial tragedy, but it is also a family tragedy, and the psychological problems of the people involved may be as great or greater than their financial losses.

During the past ten years in the United States, the literature has highlighted the importance of the small business sector in achieving economic goals. It is now time to focus attention on how specific problems relating to the small business sector can be solved.

There are very few small business experts or consultants in the United States, and they may be considered a first generation because they have received no specific training for dealing with the problems of small businesses. There is a lack of educational programs, extension services and support organizations to prepare people to serve the needs of the small business sector.

The educational programs and assistance given to farmers through the Department of Agriculture and its network of cooperative extension services might be duplicated in the area of business. Although the principles and problems in business are in many ways unrelated to agriculture, the concept remains the same.

A comparison might be made between the U.S. Small Business Administration (SBA) and the Department of Agriculture regarding their ability to provide services to these two economic sectors. For every 20 farms in the United States there is one Department of Agriculture employee; for every 2,200 firms there is one Small Business Administration employee. The total SBA staff of 4,500 is inadequate to satisfy the demands of the small business sector. Management assistance is currently being provided by the following groups:

470	SBA Management Assistance Officers (MAO)
9,500	SCORE (Senior Core of Retired Executives)
2,500	ACE (Active Core of Executives)
20,000	College students enrolled in small business courses
2,000	Faculty involved with the Small Business Institute Program

Only the 470 Management Assistance Officers are paid professionals. The remaining 34,000 persons may be considered volunteers who have varying degrees of commitment to providing assistance.

A major priority regarding the small business sector is the development of integrated policies. In January 1980, the White House Conference on Small Business identified issues and made proposals concerning small business policies for the 1980's and beyond. Twelve policy issues that were addressed at the conference included: (1) capital formation and retention, (2) federal procurement, (3) economic policy development in government programs, (4) women in business, (5) government regulations and paperwork, (6) inflation, (7) international trade, (8) minority business development, (9) innovation and technology, (10) energy, (11) veterans in business, and (12) education, training and assistance. Additional proof that the federal government is interested in the small business sector is reflected in the fact that more senators applied for membership on the Senate Select Committee on Small Business than any other Senate committee.

The issue paper on education training and assistance indicated that:

> There is an urgent priority in the current national 'crisis of confidence' to encourage the expansion and vitality of small enterprises as a long-term factor in the American economy. It seems apparent that there is a need for reestablishing a strong base for small businesses and a reintroduction of the small business option to the American public. In other words, there is a need for a systematic nationally-directed program of education for entrepreneurship.[4]

Not only is there a need for continuing education and training in the form of management assistance and updating of specific technical skills, but there is also a need for general public awareness of the problems and potentials of owning and operating a small business.

Involvement of Vocational Education

Vocational education has had a proud history of preparing people with the skills they need for employment. Since the early 1970's, vocational education has focused on broader non-skill types of educational programs and has played a leadership role in developing and implementing career education at all educational levels.

Recently, there have been indications that vocational educators should be more involved in the areas of attitude development. Occupational survival skills such as problem solving, human relations, decision making, and effective communication are some of the new types of concepts which might be included in career preparation programs.

Vocational education is open to new ideas concerning the preparation of people for work. One type of new activity which has received attention at the national level is the idea that preparation for self employment is a career option that could be included in vocational education programs.[5] Vocational education prepares people for employment, but not much has been done to help people gain the knowledge and ability to become self employed.

A survey conducted in Middlesex County, New Jersey, indicated that of those persons graduating from vocational programs 25 years ago, nearly 9% of these graduates eventually owned their own businesses.[6] Of those students currently enrolled in vocational education programs, three or four students in a typical vocational education class will eventually own their own business, but many more students have the potential and desire to become self employed.

Supply Vs. Demand

Vocational education has always been a primary factor in the supply side of the economic equation pertaining to supply and demand of skilled manpower. However, recent pronouncements by government officials and others indicate that vocational education can also be involved in the demand side of the job creation equation. The demand for trained manpower comes with the initiation of new businesses and expansion of existing businesses. Little thought is given to the preparation of those persons who are self employed who will create the demand for new jobs. When people become self employed, they must hire workers who will also need training.

Vocational education can have a significant impact on the job creation process by helping to prepare those people who are interested in self employment. It is the preparation of people with self employment skills that will enable vocational education to approach the job creation process from a totally different perspective.

Entrepreneurship Education

Until recently, the public sector had little interest in implementing education and training programs regarding entrepreneurship development.

Between 1976 and 1978, only nine projects relating to entrepreneurship education were funded by the Bureau of Occupational and Adult Education, HEW, for a total of $674,327. This relatively small sum of money indicates that such programs have had very low priority. In addition, the outcomes of these nine projects have had little impact on educational programs to prepare new and emerging entrepreneurs because much of the content of these projects concentrated on techniques and materials for teaching finance, management and marketing. There was little content relating to entrepreneurship education, possibly because the concept of entrepreneurship is new and many educators really do not know what or how to teach this subject.

Entrepreneurship education is important because it is primarily through the development of viable firms that growth can take place in our economy. New businesses need to be initiated and weak businesses need to be strengthened. Stable businesses need to be assisted in developing plans for expansion and growth.

The small business sector is marked by instability and a high rate of failure. Various target groups that should receive instruction and training for entrepreneurship include the following:

1. Future entrepreneurs: these would be young people who are considering small business ownership as a career option at some time in their future;
2. Potential entrepreneurs: those persons who are ready to initiate action to become self employed;
3. Existing entrepreneurs: those who currently own small businesses and are in need of assistance; and
4. Growth-oriented entrepreneurs: those persons who have a viable business and are interested in expanding.

Vocational education programs need to be designed to meet the needs of these four groups of people. The primary objective of these programs is to increase the chances of success of small business owners. This education should begin at the elementary and secondary education levels and be continued at the adult level. People need to know the problems and prospects for self employment, how to initiate action to become self employed, the types of skills necessary to operate a business, and the strategies and opportunities which can help businesses expand.

Innovative Programs

A CETA program has been implemented by the Private Industry Council (PIC) of Berrien County, Michigan, to help CETA participants become involved in small business management.[7] The PIC hopes to place 20 trainees in jobs which will teach them such management skills as supervising a small staff, meeting production schedules, and running an office. Approximately $52,000 in Title VII funds will support half their salaries during training periods lasting from four months to one year.

Although this program is unique and innovative, the outcomes of the project are highly questionable. Can a small business manager be trained in one year or less? Is this project an efficient use of federal funds? Are there other methods which can be used to train future small business managers? Are there alternative educational programs which can produce similar results? Is this type of training really necessary? In most small businesses, training at all levels takes place on the job and is mostly conducted on an informal basis.

On a broader scope, the Private Sector Initiative Program has tried to create jobs through the private business sector. In its report of this program, the National Center for Jobs and Justice indicated that there is a lack of commitment by the business community to this program. This report, "Leveraging With a Toothpick: The Carter Administration's Private Sector Strategy for Job Creation," indicated that private industry councils and the targeted jobs tax credit are inadequate programs for attracting meaningful business involvement. The report suggests that disadvantaged would do better securing jobs if firms receiving government contracts were required to set aside positions for them.

Actions by the public sector in the area of job creation have been ineffective, and new alternative programs have been initiated with the cooperation of the private sector. However, in order for jobs to exist, there must be businesses willing to hire people for these jobs. Vocational education programs for self employed persons will make businesses more viable, and employment creation becomes a natural phenomenon. Helping business, especially small business, will result in the creation of many new types of jobs.

A recent report[8] indicated that job creation requires the successful combination of (a) unemployed people, (b) unsatisfied markets, and (c) underutilized resources (capital and physical). This report suggests there must be a new relationship developed between the private and public sector which would encourage the growth of business and accelerated development of local, private-public enterprises which has unrealized potential for large-scale, targeted job creation.

The coalition of business, labor, community groups and government agencies can combine their resources and capabilities in new ways. The resulting enterprises will bring together underutilized resources and unemployed people to address unmet needs. The report suggests that these local private-public enterprises (LPPE) are finding ways to fill gaps in the economy that neither the public sector nor the private sector has the capacity to fill alone. These needs include solar energy, waste recycling, industry revitalization, energy conservation, house rehabilitation, and inner-city food distribution.

It is envisioned that these local private-public enterprises can be successfully targeted to specific groups of employed such as minorities, youth, ex-offenders, ex-addicts, displaced homemakers, and Vietnam veterans. Although the concept of these LPPE is noteworthy, there is a need to determine the extent to which these types of enterprises can replace those businesses in the private sector. Is there really a gap between services provided by the public sector and services provided by the private sector which can be meaningfully fulfilled through the LPPE? It appears that once the LPPE is initiated, these enterprises will still face similar problems to those in the private sector. Interventions to develop artificial business structures such as the LPPE may not be a viable concept in the long term, and these initiatives may not be effective.

The Full Employment and Balanced Growth Act of 1978 established full employment as the official long-term goal of the nation. The Department of Labor is charged with the final responsibility for meeting these employment goals, particularly with respect to decreasing the rate of unemployment. The Full Employment Act reflects a changing perspective of the nature of the most productive means of job creation. The locus of job creation has shifted: whereas five years ago government was perceived as the growth sector, the evidence now suggests that small business development in the private sector will account for most of the new jobs in the future.

Various short-term programs designed to train people for specific jobs have been funded with government money. Programs like CETA, HITS, and the New Jersey Department of Labor and Industry's "Customized Training and Technical Service Program" have been initiated to prepare people for work in the private sector. The types of training received in these programs tend to be for entry-level occupations. Many of these government funded training programs are for occupations generally associated with large businesses. It appears that we have a corporate mentality when we think of job creation through employment programs. However, the results of various employment surveys indicate that many of the participants in these training programs may have difficulty in finding employment in large businesses.

It may be that vocational education must use a different approach to the job creation process. The creation of jobs does not necessarily depend on the quality of our vocational education programs, but depends primarily on the ability of (a) existing businesses to expand and (b) new businesses to be initiated.

Many new small business owners start businesses which are similar to businesses where they worked as employees. If this is true, vocational

education has the responsibility not only to prepare people with the skills necessary for employment, but should also teach skills which will enable employees to leave their employment situation and seek self employment opportunities. There is no shortage of work; however, there is a shortage of jobs. It may be time for policy-makers to consider the advantages of preparing people for work, which will always be abundant, rather than for jobs, which will always be scarce. Vocational education has paid little attention to people who create their own employment. These self employed entrepreneurs are absolutely essential to the future economic growth in the United Sates.

The Role of Technology

It is through change that economic growth is possible, and it is small businesses that precipitate change. Recently, a study conducted by the M.I.T. Development Foundation compared job formation in 16 companies for the time period 1969-1974. Six of the companies were giant corporations having sales in the billions of dollars. Five were large companies with a history of innovation, and five were smaller new companies which had developed new technologies.

The results of the study indicated the sales of the six giant companies such as Bethlehem Steel and General Electric grew 11.4% a year, but their employment roles increased at the rate of only .6 of 1% a year. These giant companies created 25,000 new jobs.

The sales of the five large innovative companies such as 3M and Xerox increased 13.2% a year, and their employment roles increased at the rate of 4.3% a year. These five companies created 106,000 new jobs.

The sales of the five small high-technology companies such as Data General and Computer Graphics increased 42.5% a year. Their employment roles increased at the rate of 41% a year. Even though their total sales were less than 1/13 of those in the largest group, these five companies created 35,000 new jobs in five years (10,000 more jobs than in the six giant corporations).

Nationally, the study estimated that between 1969 and 1976, 88% of new jobs were provided by small businesses, 66% by firms employing fewer than 20 people. It was also estimated that 80% of these jobs were in businesses less than five years old.

The National Science Foundation indicated that small firms produced four times as many new ideas per research dollar as medium-sized firms and twenty-four times as many new ideas as large firms. However, the formation of smaller companies which often create new ideas and create new employment opportunities has decreased in the last few years. In 1968, three hundred high technology small companies were created, however, none were created in 1977; and, as recently as 1979, the birth rate of such companies was practically 0%. Last year, the federal government liberalized the tax treatment of capital gains. This new tax legislation has led to some improvement in the business birth rate, but the problem still exists.

Summary

Vocational education must define new approaches to link education and work. An economy maintains its vitality through change, and it is entrepreneurs who are willing to make changes by taking risks and being innovative. It is primarily the small businesses that initiate change, and it is the large businesses which tend to perfect and refine those changes.

Marxist critics of vocational education have accused vocational educators of conspiring with business and industry to "condition" the workforce, to produce employees who would come to work on time, do what they're told, be complacent and respect authority. Vocational educators were viewed as people who conditioned workers to conform. It is time to look at ways that vocational educators can prepare more entrepreneurial workers; the time has come to focus national attention on education for entrepreneurship and to restudy education and manpower programs in terms of this concept.

There is a need to develop strategies to create new employment opportunities. Public policies should be reviewed to find out how government may be discouraging the formation of small businesses. The concept of manpower policies needs to be enlarged to include and emphasize suitable incentives for self employment. Business needs to be encouraged to redefine employment in more entrepreneurial terms, and there is a need to modify educational programs to better prepare people for entrepreneurially defined work. Although entrepreneurial skills may be just the opposite of technical skills, vocational educators may be in the best position to show the relevance of entrepreneurial skills to the development of technically skilled workers who want to be creative in their employment or become self employed in the future.

Footnotes

1. Issue Paper on "Education, Training and Assistance," The White House Conference on Small Business, January, 1980, pp. 378-379.

2. Birch, David, "The Job Generation Process," M.I.T. Program on Neighborhood and Regional Change, Cambridge, 1979.

3. Ibid, pp. 30, 31.

4. Issue Paper on "Education, Training and Assistance," The White House Conference on Small Business, January, 1980, p. 377.

5. Preparation for Self-Employment, The National Advisory Council on Vocational Education, 1979, p. 1.

6. Wenzel, William, comments at the Job Creation Conference, Somerset, New Jersey, November, 1979.

7. "Training New Managers for Small Business," The Private Sector Initiative Program Clearinghouse, National Alliance of Business, Washington, Vol. 1, No. 5, March, 1980, p. 2.

8. "Job Creation Through Enterprise Development: CETA and the Development of Local Private-Public Enterprises," The Corporation for Enterprise Development, Washington, D.C., June, 1979, p. 1.

REACTION
TO
INCREASING PRODUCTIVITY IN THE SMALL BUSINESS SECTOR

David E. Baker

I find myself more and more involved with the vocational education training community as we begin to implement the goals developed by the Illinois 2000 Foundation. Illinois 2000 was designed and developed by the Illinois State Chamber of Commerce, with the assistance of a wide variety of people across the state, to establish some new economic directions for Illinois. I would like to take that theme as the basis for my reactions to Professor Nelson's remarks on the small business sector relationship to vocational education.

I believe that the most important thing that we can do to support small business development in Illinois and in other states is to generate the kind of business and government climate which enables entrepreneurs to make their own investment decisions. Ultimately, I think we can get a lot further if we let them do what they are most capable of doing rather than doing it for them.

I have been part of and involved with the general movement and new philosophy that business and job development should be focused on the small business sector. Yet, I am concerned that the government and academic sectors may not really be capable of aiding our small business friends. David Birch, in the study quoted by Robert Nelson, wrote a very telling paragraph which says that the only way we are ever going to get job development is by supporting the small business sector. He said, "The firms such (job development) efforts must reach are the most difficult to work with. They are small. They tend to be independent. They are volatile. The very spirit that gives them their vitality and job generating power is the same spirit that makes them unpromising partners for the development administrator." If any of you have been involved in trying to work with small commercial strip developments or in trying to get small business people to participate in adult education courses, you know that you have a very difficult role cut out for you in light of these facts.

Now, I would like to discuss four tiers of relationships between the entrepreneur and the educational system. Then, I will address some larger areas where we may be able to forge a partnership with the small business sector in Illinois.

The first tier focuses on teaching people who have some interest in becoming entrepreneurs. I see this as a developing trend and one of the primary bases for Professor Nelson's remarks. I would like to underline my conviction that the interest must come first. I think it is probably impossible to create an entrepreneurial attitude on the part of someone. Furthermore, if you taught potential entrepreneurs everything they needed to know about being entrepreneurs, they would probably go to work for large corporations.

Right now, the atmosphere for developing a small business is very negative. Capital is nearly impossible to locate for small business. They have to borrow money at over 24 percent interest, if they can find it. The only alterntive exists with large-scale, government-sponsored guaranteed loan programs, but they are always underfunded. The administrative problems are such that it is almost impossible to deliver the money to the small business person.

The second tier is that vocational education and other kinds of education can offer management training to people who have already chosen to be entrepreneurs and are in business. I think that this is already occurring across the country and may be a more successful approach to the entrepreneur than trying to excite people in the first place. However, the educational system is faced with a problem of finding time in the entrepreneur's busy schedule to enroll them in classes. Most of them work 10 or 12 hours a day, six days a week, attempting to keep their businesses alive. The entrepreneur is not only the chief executive officer but also the accountant and the personnel director. I speak from personal experience. In Illinois 2000, we tried to involve small business people in our program, and they were always too busy.

The third tier consists of training workers for small business concerns. This is probably an area of much more fruitful exploration. The current potential of linking CETA and Title VII programs with the private sector, through the Private Industry Councils (PIC), is quite high, if the communities are very inventive in serving their small businesses. Above all, the communities must handle the paper work. If they can deliver high quality, well trained, and responsible workers to the door of private small business, I think the communities will provide a genuine economic incentive and assistance to this sector -- particularly if job training is linked to the targeted jobs tax credit program. However, I assure you that if small business senses the mounds of paper work required to comply with CETA, they will avoid any participation.

It is my opinion that the success or failure of the PIC program is based, in great part, on the capacity of the government to solve that paper work problem. Let me just underline two fundamental but different goals surrounding this issue. CETA is involved in a very important social goal of providing work for the structurally unemployed. Private businesses are involved in the very important economic goal of making a profit. Sometimes those two do not go together.

The fourth tier, which I think is another area of great potential that Professor Nelson mentioned, is training the government small business administrator, bank manager, and consultant. One thing that we have identified in Chicago, in terms of the need for revitalizing our commercial strips and small industry, is the training of loan packagers. TRUST, Inc., a private, non-profit organization concerned with job development, has recommended two key strategies for the City of Chicago: one is to train and fund community economic development experts who can work with groups of one or two hundred small businesses to handle their primary management problems; and the second, to train loan packagers who can work with local banks and small businesses to obtain the SBA loans, etc., that the small businesses are incapable of negotiating alone.

Let me conclude by discussing the potential for joint action I see for the future. What can we do to make it possible for business to work productively here in Illinois? We can address the large-scale business climate, government regulation, and paper work problems that beset small business. We can build in a sensitivity, when we pass laws, to the fact that the small business administrator does not have a staff of 30 lawyers to fill out all the forms that are forced upon him or her by state and federal government. For example, when we passed what we thought was an economic incentive or a tax break on a new plant and equipment here in Illinois in 1978, rather than making an across-the-board write-off on the sales tax, we required the firm to file a form each time it wanted to obtain the exemption.

We now have a forms commission established in Illinois which is trying to sort through the paper work. We also have a group called the Joint Committee on Administrative Rules which is reviewing all the regulations and examining the economic impasse. This legislative body has a potential for reducing unneeded regulations.

We have other groups in place called Small Business Resource Councils which work through local chambers of commerce to try to provide management assistance. That may be a link for vocational education schools. They could work with Small Business Resource Councils to identify small business participants interested in your programs.

Finally, I have a proposal to leave with you which is just beginning to be developed which links productivity, small business, and education. It is to develop, on a "pay-as-you-go" basis, a consortium of the major universities in Illinois to provide a small business productivity extension service across the State. I say "pay-as-you-go" because I think that business people would rather be involved in an operation where they pay for the service rather than see another large bureaucracy created. We might have to start it on a small basis, aimed at the small communities of Illinois, 10,000 and less.

I think it has great potential because our universities have a tremendous concentration of high quality people in the industrial engineering area as well

Women and Productivity

Madge Attwood

It is well known that women are productive. They have supplied most of our nation's nurses, teachers, clerical workers and domestic workers. They have raised the children, washed the diapers, fed the families, given emotional support and often subordinated their own ambitions to enhance the productivity of others. But in those areas that require the full use of their intellectual and vocational abilities, women are not as productive as men. Women do not achieve or contribute as much as men in science, humanities or the arts (Rossi & Calderwood, 1973) even though they have been found to be equally as intelligent as men (Maccoby & Jacklin, 1974).

Women's Participation in the Labor Force

Women are under-represented in tenure track positions on university faculties (Chronicle of Higher Education, 1979). They hold few top management positions in business (Kanter, 1977a) and in vocational education they are rarely found in the most prestigious positions. While more women have moved into higher level positions within state and federal bureaucracies since the passage of the 1976 Vocational Education Amendments and Title IX of the Education Amendments, most of the highest positions are still held by men. For example, in 1979, only one of the 50 state directors of vocational education was female.

Women are over-represented in occupations that are low paying, do not require independent decision making, and have little autonomy. As recently as 1973, 40 percent of all employed women were found in 10 occupations (Fox L., Fennema, E. & Sherman, J., 1977). In 1975, only 5 percent of working women were managers and administrators while 35 percent were in low status positions that provided little opportunity for growth. In business organizations, even low status management positions such as office manager for a secretarial staff are more likely to be held by men than by women (Kanter, 1977a). Women comprised two fifths of the professional and technical workers in 1975 but they were most likely to be professional teachers and health workers (U.S. Department of Labor, 1976b). Even among health workers, women tend to be crowded into low paying positions that are subordinate to primary care practitioners such as physicians and dentists.

On the more positive side, there is evidence that some change is occurring. Beller (1978a) found that enforcement of sex discrimination charges under Title VII of the Civil Rights Act of 1964 increased the relative demands for women and decreased the differential between male and female earnings between 1967 and 1974. Investigations and settlements narrowed the male/female earnings differential in the private sector by about 14 percentage points and by about seven percent in the economy as a whole. However, the earnings differential between fully employed men and women with equal education remains substantial. In 1974, the income of full time employed men with five or more years of education exceeded full time employed women's by over 54 percent. (U.S. Department of Labor, 1976a).

More women are also moving into the better paying skilled trades such as electrician, painter and aircraft mechanic. Between 1960 and 1970, only two to three percent of women were employed in skilled trades; by 1974, this had increased to five percent. (Farmer, 1978).

The irony of women's occupational segregation is that women make up more than 42 percent of the labor force and are entering the labor market at such a rate the Bureau of Labor Statistics projects that by 1990 almost half (46%) of the total civilian labor force will be female and that more than 60 percent of all women will be working outside the home (U.S. Department of Labor, 1979). In the twelve years between 1965 and 1977, the labor force participation rate of women between ages 25 and 34 advanced 21 percentage points. What makes this increase so remarkable is the fact that 64 percent of the women were married and many had children at home, factors which traditionally have been thought to keep women out of the labor market (U.S. Department of Labor, 1978a).

The critical question facing the nation is how these women will be utilized. Will we continue to make use of less than half our brain power or will we find a solution to a puzzle that keeps most working women in jobs that are well below their capabilities?

Barriers and Gateways to Productivity

Numerous theories and studies have attempted to explain the occupational segregation of working women and the consequent under-development and under-utilization of their talents. Understanding the forces that act as barriers may suggest ways to enhance the productivity of women.

Inhibition of Career and Achievement Motivation

One explanation has suggested that women are inhibited in their achievement and career motivation by a variety of factors. Farmer (1977) summarized a group of studies that indicate women's career and achievement motivation is restrained by factors such as home/career conflicts, sex role orientation, low risk taking behavior, low academic self esteem, vicarious achievement motive and fear of success.

Many girls grow up with the notion that high achievement is incompatible with successful relationships with the opposite sex and develop a "motive to avoid success" in order to avoid alienating significant men in their lives. Most of the fear of success research has been done with white college women and shows that the fear changes when competitive factors are changed. It is less when women have the support of significant men in their lives, when they compete against themselves rather than against others, (Horner, 1972) and when they are married with children (Tomlinson-Keasey, 1974). Interestingly, fear of success also appears to be a racial phenomenon. When black college women were compared with white college women they were found to have significantly lower fear of success responses (Weston, 1969).

Some women find their need for achievement satisfied vicariously through the successes of important men in their lives rather than through their own successes. Lipman-Blumen and Leavitt (1976) found that from a sample of married college females none of those measuring high on vicarious achievement motivation were pursuing Ph.D.'s.

In order to counteract the effects of sex role socialization, social and psychological factors, consciousness raising groups, assertiveness training seminars, and leadership training classes have also been developed. While these efforts have been helpful, they are by no means enough. Improved counseling and guidance, both personal and career counseling are essential.

Mathematics as a Critical Filter

Closely related to socio-psychological factors that inhibit women's aspirations has been the discovery that mathematics acts as a critical filter to limit the range of occupational choices available to women. (Sells, 1976). Mathematics competence is essential for several traditional male careers such as engineering, computer science, physics, navigation, medicine and dentistry, and is useful in certain nontraditional technical careers as well. Yet many girls do not take enough optional programs in these fields. Not only does failure to take enough mathematics automatically bar women from entering traditionally male occupations such as engineering, it may also partially explain why women are rarely found in the top management positions in industry. Many major industries involve technologies that initially require an engineering background, and thus a strong mathematics background as well.

Fox (1977) hypothesized that the sex typing of mathematics as masculine results in differential expectations and socialization practices for boys and girls with respect to mathematics achievement. Existing research supported her hypothesis. She found that sex differences in the perceived usefulness of mathematics for adult life have been reported as early as the seventh grade and that a girl's decision about whether or not to take math is strongly influenced by the advice of significant others such as counselors and parents. There is considerable evidence that women who wish to appear feminine are more comfortable in situations labeled feminine or at least neutral; thus the

labeling of math courses as male may have a negative impact on a young woman's willingness to choose those courses and on her performance in those classes as well.

It is clear that counseling girls as early as in junior high school into mathematics is extremely important if they are to have a full range of occupational choices available to them. It is also important that basic courses in mathematics at the undergraduate level in colleges and universities be provided to give a second chance to those students who were not well counseled. This has now begun to happen at some major universities.

Economic Theories

Economists have taken a different approach in considering occupational segregation. Two of the economic explanations that have been described are the human capital theory and the sex discrimination theory (Beller, 1979). According to the human capital theory, women choose to enter occupations for which earnings losses are smallest from anticipated periodic absences from the labor force over the life cycle. They enter in disproportionate numbers those occupations in which skills are least likely to deteriorate from career interruption. As a result they minimize their economic losses (Polachek, 1979). The discrimination explanation, on the other hand, maintains that women face discriminatory barriers to entry into certain occupations. The barriers cause them to be crowded into a small number of occupational groupings; increased worker supply then results in reduced earnings. Beller (1979) found that enforcement of equal employment opportunity laws had reduced occupational segregation. She concluded from these data that discrimination was in fact a cause of segregation, but noted that if women enter occupations by choice then there may not be a fundamental social problem. On the other hand, if external forces form discriminatory barriers, then this becomes a national issue that can be addressed through labor market policies.

Organizational Structure

Explanations of what has been holding women back in the work force generally focus on socialization, choice (reflecting socialization) and discrimination--factors related to men and women as individuals. Kanter (1977a) however, has postulated that continuing inequality is due to the structure of organizations. When job openings in corporations become available, predictions of job performance are made on the basis of stereotyped and current notions of who fits where in the system. Women tend to be placed in positions that are low in power and opportunity and to be rewarded for routine service. Differences in opportunity, power, and the numbers of people in approximately the same situation rather than sex differences can explain a large number of individual responses in organizations. Thus a secretary may vicariously gain status and a sense of achievement through working for a high status boss. But gaining rewards vicariously may not necessarily be her psychological preference; it may be the only avenue available at work to satisfy those needs.

The numbers of women who do attain opportunity and power are few. Whether hired because of their talents or to meet affirmative action guidelines, they often experience the problems of the token minority. They find themselves isolated, lonely, and experiencing undue stress. There are few women like themselves who can form a network of support such as men typically have who are in high level positions. Thus the "token" woman's reactions may be the result of being a numerical minority rather than because of psychological or socialized differences.

People try harder to achieve when they view themselves as competent and in charge (Weiner, 1974). If women are to contribute to organizations according to their capabilities, attention needs to be given to enhancing their opportunities for growth and promotion and for enabling them to gain power.

Kanter (1977a) recommended several strategies for opening opportunities for clerical staff; for example, creating bridges between job ladders by identifying competencies needed rather than by giving titles for the function. Performance appraisal systems that would provide good feedback and encouragement for learning could be established; frequent work planning and review

meetings in which workers discuss with managers of peers their strengths, improvements and areas for growth could be held; job posting could occur in which openings are publicly announced; redesigning of jobs might be done, perhaps enabling a secretary to become an apprentice to the boss and thus learn skills to move ahead on the management ladder.

An approach that would be helpful to women at all levels is the use of flextime. Women are able to more readily meet family responsibilities under this system since employees control the exact hours they work out of a week or a month rather than having a fixed schedule.

Empowering strategies that organizations might use include opening communication channels and making system knowledge such as budgets, salaries and minutes of meetings more routinely available; encouraging superiors to sponsor subordinates for better jobs and rewarding them for doing so; and educating managers about traditional male behaviors such as protectiveness toward women so that women are given challenges and full opportunity to handle crises on their own.

Kanter also hypothesized that inequality in numbers of people like oneself influences organizational performance. In job categories where men vastly outnumber women, women operate at a disadvantage. The subtle behaviors that have been called "sex discrimination" come into play in situations of unequal numbers. Kanter suggests "batch" hiring rather than one by one hiring of women in male departments or jobs, clustering of women in large enough numbers so that they are no longer considered tokens or developing a flexible organizational structure so that women will belong to more than one group and have contact with other women at their levels.

Enhancing the Productivity of Special Groups

Married Working Women and Working Mothers

Working women who are married and working women with children face special challenges if they are to make their best contribution in the workplace.

Married women traditionally have had an expected set of family responsibilities. Women in dual career families where the husband is present and particularly where there are children, are likely to experience role strain from trying to carry at least three roles: domestic worker, mother and career woman. A disproportionate share of household duties is typically assumed by the wife except for couples with similar employment histories. But even among couples with similar employment histories, women tend to take on more of the child care responsibilities (Weingarten, 1978). Well meaning husbands often try to lighten the wife's load by "helping out." But domestic chores in the dual career household need to be seen as common tasks essential for the smooth functioning of the home and they need to be shared with each partner assuming equal responsibility.

The separation of occupational and family life is peculiar to industrialized societies. It contributes to stress and may interfere with optimal functioning of the worker on the job. According to organizational mythology, occupational life is organized around impersonal standards of competence, whereas family norms are supposed to rest on custom, participation and emotional standards. When men comprised most of the labor force, this myth could be perpetuated, because men were not seen as carrying family membership when they went off to work. But working women are always seen as carrying a family (Kanter, 1977b). With entry into the work force of increasing numbers of married mothers and with pressure for women to move into more responsible positions, the integration of work and family will be essential if women are to contribute as fully to society as they are capable.

Family life affects a person's working life. If a family is not functioning well, productivity will almost certainly be reduced. The recent movie "Kramer vs. Kramer" poignantly told the study of a man who discovered himself in the traditional women's role when his wife left him. He had a apartment to maintain and a small child to care for. The insensitivity of the corporation for which he worked was brilliantly illustrated when he was fired after making

the choice of taking care of his sick child rather than giving full attention to the corporation's priorities. This is the kind of choice facing thousands of working mothers everyday. It will become increasingly important for organizations to be sensitive to the family needs of its members if their workers are to be optimally productive.

When organizations acknowledge the family needs of their employees, productivity can be enhanced in a variety of ways. For example, modifying the typically rigid reporting and leaving time for organizations may significantly influence worker productivity. A black female employee of a Boston bank was thought to be irresponsible because she was habitually late. When the company changed to "flextime", she chose a schedule that enabled her to arrive at 9:00 a.m. instead of 8:00 a.m. and was never late after that. She had been late because she had to drop off her child at a sitter's house at 8 o'clock and as a consequence had no choice under the old system but to be late. Flextime, in widespread use throughout Europe, is being introduced into some U.S. companies. The idea behind it is that within specified limits employees choose their own hours to make a better fit with family responsibilities. For example, in a Swiss company, 35 percent of the workers use flexible hours for spending more time with their families and for doing domestic chores. Generally, the total number of working hours each week is divided between core hours, when all employees must be on the job, and flexible starting and finishing hours that are at the discretion of the employee. The total hours are generally balanced out over a one month period rather than on a daily or weekly schedule. (Kanter, 1977b)

Making creative provisions for part-time work that is challenging and provides proportionate fringe benefits could also enable a healthier integration of work and family responsibilities. There are large numbers of part-time women workers and most of them are married. The problems with part-time work are that it is often unskilled labor, and it is frequently repetitive, dull and routine. It offers lower wages in proportion to full-time workers and generally provides no fringe benefits. Even with this state of affairs there is not enough part-time work to meet the demand. Approaches are needed that will extend part-time work and incorporate it into regular jobs. Darling (1975) proposed that two people might share one full-time job each having equal responsibility. They would cover for each other and bring complementary skills to the job. Another possibility would be for two people to divide a job between them, each assuming responsibility for half the work. This arrangement could function well in positions that are made up of individual assignments or cases such as in social work. Still a third approach is called "split level." In the split level arrangement a full-time job is analyzed according to its functional components. Skills involving lesser degrees of training or ability are reassigned as with a physician and a physician's assistant. The "split location" job is one in which the employee does work both at home and in the office. The schedule is arranged in advance so the employee can be reached and appointments and conferences can be scheduled.

Under the plans described above, the worker would receive a proportionate share of fringe benefits, credit for work experience and salary increases.

Women in Poverty

Issues of productivity are quite different for women in poverty, many of whom are also minorities. The incidence of poverty is almost four times greater for minority families than for white families, and minority families headed by women are almost twice as likely to have incomes below the poverty level as similar white families (U.S. Department of Labor, 1977a).

Families in poverty increasingly are being headed by women. In 1967, 30 percent of all poor children lived in female headed households. By 1977 the figure was 55 percent. In that same year, 48 percent of all poor families were headed by women (U.S. Department of Labor, 1978b). The problem of women in poverty is basic. They need to earn money. One of the ways to address the money problem is to help more of them get into the nontraditional skilled trades that offer better incomes than the traditional women's vocations. The logical way to accomplish this is through apprenticeship training programs. Apprenticeships are the major channel for persons with limited formal

education and financial resources to improve their income and status. Apprenticeships are beginning to open up to women (Hedges & Bemis, 1974), but there are not enough to provide equal opportunity.

Women in poverty who do not have access to apprenticeships face formidable barriers in becoming economically self sufficient. Lack of information is a major barrier to their upward mobility. Often they do not know what opportunities exist. Training programs intended to make them self-sufficient are often inadequate. WIN and CETA programs have been criticized for being too short to learn good skills and too often unrelated to the job market. Jobs turn out to be short term or not available in the community and training tends to be for low paying, dead end jobs in clerical and service fields.

Poor women face nearly insurmountable problems with reliable transportation and child care arrangements (U.S. Department of Labor, 1978b). Unable to afford to leave their children in costly child care centers, mothers leave them with neighbors, relatives or by themselves. In 1975, 16 million children aged three to 13 had working mothers. Twenty thousand of these children between the ages of three and six cared for themselves; more than a million and a half from seven to 13 years old had no adult supervision (U.S. Department of Labor, 1977b). All working mothers need to have quality child care available. For women in poverty the need is critical. Child and infant care needs to be provided on a seven day a week, twenty-four hour a day basis, with subsidies to women who work for low wages and cannot afford to pay.

Lack of transportation is another factor that reduces employment options and interferes with women's productivity especially among women in poverty who live in rural areas. If transportation to and from job and training sites in rural areas were provided, perhaps by state and local governments, their productivity might well be given a boost.

Conclusion

It is likely that the unprecedented entry of women into the work force will continue for some time. If the nation is to benefit from the full development of women's talents, a multifaceted approach must be taken. Attention must be given to addressing the unique needs that women bring.

Career counseling and guidance and career education are urgently needed to help young women identify non traditional opportunities, to help them prepare appropriately for work that is consistent with their abilities and to encourage them to take the risk of entering non traditional occupations.

Organizations need to examine their structures to identify ways to change dead end clerical jobs into positions with opportunity for advancement, to enable women to gain power and to balance the numbers of women in predominantly male positons. Identifying ways to integrate family life and work life will become a particularly important issue as more mothers and wives enter the work force, since women still carry the major responsibility for domestic duties. Domestic chores need to be viewed differently if women in dual career families are to be spared role strain. Role strain can lead to a poorly functioning family and family stress will in turn reduce productivity, to say nothing of the human suffering it produces.

Adequate low cost child care facilities are urgently needed, and for women in poverty, access to apprenticeships and to good quality training is essential. Appropriate training for poor women needs to focus on helping them into decently paying jobs.

Women are contributing to society in many critically important ways. The challenge today and in the decades ahead is how to create the conditions under which they can develop the full potential for their own fulfillment and for the betterment of society.

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REACTION
TO
WOMEN AND PRODUCTIVITY

Andrea H. Beller

First, I would like to say how interesting Professor Attwood's paper is and how effectively it draws together materials from a variety of disciplines. Professor Attwood is to be congratulated for a thorough and competent culling of materials from various sources. I agree with most of what she has said, especially on the importance of making the workforce responsive to the needs of women and families, and since the paper is well-documented, I will comment only briefly on two points. I will then use the remainder of my time to push one aspect of her paper further into the economic realm, and to add a dimension to this discussion that has been ignored, but needs to be examined.

The Paper

In my own research on the determinants of occupational segregation, I have studied the effects of education on women's entry into non-traditional occupations. I have examined these effects separately for each schooling segment by dividing them into elementary, high school, college, and graduate education. The results, which are fairly significant statistically, show that with each additional year of high school the likelihood of women entering non-traditional occupations decreases by about 2.2 percent; by contrast, the probability does not decline over other schooling segments, and increases over graduate school. As women go through high school they are probably deciding to become secretaries and sales workers, but not considering entering the crafts occupations, which pay considerably more. This suggests that there is a failure in our high schools to develop some of women's skills and to give them appropriate guidance.

High school is also the critical level for the development of mathematics and shop skills. Trigonometry and algebra are necessary for just about all technical, business, or academic careers. Further, the development of shop skills is critical for women who wish to become scientists, as well as for entering the technical occupations. When I participated in a conference of 60 women scientists, sponsored by the American Association for the Advancement of Science in Washington, D.C. two years ago, I discovered that many of these women had overcome innumerable obstacles to become physicists and chemists, as well as social scientists. One theme that kept recurring was how essential shop skills were, and how these women had either to fight to get into shop classes or been denied entry into them. I am afraid that this has not changed sufficiently in the direction that it should. Since my father was a shop teacher, I had no difficulty winning the award for the best project in my science techniques laboratory in high school; this personal evidence indicates that there is no reason why women cannot do well in shop classes as long as they are encouraged to do so.

I would also like to emphasize the importance of providing flexible work opportunities so that women who might not want to participate fully in the labor force during the childbearing and rearing years would be able at least to maintain skills and work motivation during this period. In some occupations, once skills are lost by dropping out of the labor force, it is almost impossible to regain them. Instead, many women, when they re-enter the labor market after the childbearing and rearing years, have to start all over again in a new career. This results in a lot of wasted jobs training from the years before they had children. If more opportunities were provided for women to continue in their chosen occupations, in less than full-time ways, this loss of skills could be avoided.

Economic Aspects

As an economist, my first thought in response to this paper is "This is all fine and good, but who will pay the costs of modifying the work schedules and benefit systems to enhance women's opportunities to be productive in the labor market?" Presumably, these innovations in the workplace will cost firms more than the current system, or they would have thought of them on their own and have implemented them long before now. Because they have not

done so, nor are hurrying to do so now, employers must at least view this new system as more costly, that is, as reducing their firm's productivity per dollar of input.

It is only a first step to make such proposals. The costs of implementing them need to be evaluated and then a decision made about who will pay these costs. So far, there has been little research into whether these programs actually reduce or increase productivity. Firms believe that they reduce productivity, but arguments can be made that they increase it. Some studies are being carried out to assess the impacts of these innnovations; e.g., the study in progress of job-sharing in the Wisconsin State government being carried out by the Industrial Relations Research Institute at the University of Wisconsin. More than just the effects on productivity need to be evaluated, however. For example, how the program actually works, how the shares cooperate or don't, how the employment benefits are allocated, what the attitudes of the workers toward their shared jobs are, etc. For all of these factors and others will suggest how such a scheme might work in the long-run, or might be made more workable.

If these changes are found to increase the firm's costs of production, while enhancing the productivity of women in the paid workforce, then the social benefits to implementing such changes or modifications must be examined. The society must reach a consensus on whether or not making the workplace more responsive to the needs of raising families, in a society that both values a strong family and needs families to reproduce future generations of the workforce, is important enough.

How can we determine the value our society places on raising a family, or more generally, on women's (and men's) work in the home? I wish to point out here that we are neglecting an important aspect of women's productivity, only hinted at in the first paragraph of Professor Attwood's paper. From what I'm told, raising children is work, society values it, and families obviously do or wives would be in the labor force in even greater numbers than they are now. What keeps them out of the workforce is the opportunity cost of their time--the value of the output they produce in the home, e.g., developing the human capital of children (intelligence, I.Q., health, personality), managing family finances, etc. Estimating the value of woman's non-market time, or the shadow price of her time, has been done only indirectly. If she is in the labor market, then obviously her wage rate exceeds the shadow price of her time. If she is not, then her home wage is thought to exceed her market wage, but we do not know by how much. We would only know by how much if we knew what wage rate it would take for her to enter the labor market. Obviously, opportunity cost or home wage is highest when young children are in the home and the mother's contribution to home production is potentially at its greatest.

Currently, studies are being conducted by economists to estimate the value of women's non-market time. For example, Professors Jane Leuthold and Marianne Ferber, both of the Economics Department at the University of Illinois at Urbana-Champaign have recently written papers on the subject for the Midwest Economics meetings. Each took a different approach to formulating these estimates. I wish to emphasize the importance of such studies in more adequately evaluating women's contribution to society.

All of this argues that limiting the concept of productivity to activities carried out exclusively in the workforce is in itself slighting women; for much of their contribution to our economy directly affects productivity in the home but only indirectly affects productivity in the workforce. Excluding the productivity of non-market time from consideration can lead one to ask incorrect questions and to ignore other important ones.

The underlying assumption of Professor Attwood's paper has been that somebody owes women something. Who is it, and how can we get them to accept that responsibility?

I would suggest that through the valuation of women's non-market time, estimates could be imputed for the value to women and to society of such schemes as flextime, shared work, and part-time work, more day care and greater deductions for child care expenses of working couples. Then, we

need to decide whether we will give subsidies or tax incentives to employers to adopt such strategies, whether women themselves or families should bear the costs, or whether they should share them with employers, as individuals currently do for specific on-the-job training. Perhaps, we might give subsidies or tax incentives to cover the short-run transitional costs with the expectation that over the long-run the need for such subsidies would be eliminated.

This is clearly the direction in which research and analysis will have to go in the future if there is to be any hope of bringing these important innovations to the structure of the workplace, so that women's opportunities to make productive contributions to the workforce can be enlarged.

Employment and Training Programs for the Disadvantaged: History, Current Status, and Future Prospects

Marilyn L. Flynn

The history of public programs to promote work among the poor and unemployed is remarkably long. The first act of Western secular government designed to affect the mobility of labor was passed in England in 1349, as a response to labor supply shortages created by the Black Plague. British precedent, characterized by persistent categorical distinctions between treatment of "worthy" and "unworthy" poor, formed the basis for American response to problems in unemployment and destitution. It is instructive to review briefly the nearly 400 years' struggle of English and American governments in addressing the problems of income maintenance, social control, and labor supply among the poor. The pattern is one of increasing differentiation between the jobless poor and working poor; those temporarily unemployed and persons unable to find work for more deep-seated, protracted reasons; and traditional and non-traditional families.

English Precedents for American Policy

Following passage of the Statute of Laborers in 1349, English Parliaments enacted subsequent statutes over the next 150 years in a vain attempt to prevent laborers from leaving their village birthplaces. Then, as the mobility of labor and a wage economy became established aspects of English life, repressive statutes were approved to punish vagrancy.

Measures to enhance employability through job retraining appeared in the second half of the 16th century, together with the first mandatory provisions for a local "poor's tax." These laws were recodified in 1601 under Queen Elizabeth, and with relatively few additions formed the basis for public manpower policy in England until the 20th century.[1] The Elizabethan Poor Laws were copied almost word for word by early settlers in the Massachusetts Bay Colony and exercised a pervasive effect on United States public assistance provisions as administered on the township level.

The Elizabethan Poor Law of 1601 recognized two categories of indigency: the "worthy" and "settled" poor who were aged, blind, or disabled; and the "able-bodied" or "sturdy beggars" who lacked work.[2] Children over age 5 were to be apprenticed or bound out to local craftsmen. Almshouses were established as places of care for the "worthy" poor, while workhouses could be constructed separately for the able-bodied. In-kind benefits such as food, wood, or clothing might also be given to paupers living in their own homes. A new local official, the Overseer of the Poor, was empowered to levy a tax sufficient to finance these benefits and to maintain a weekly roll of paupers in need. (In the United States, this official became known as the Township Supervisor by the 20th century.) Those capable of work were to be placed on village projects such as weaving hemp or flax. Villages were expected to supply a store of raw materials for use on these projects.

In the mid-18th century, a spate of work projects for the poor sprang up in England. Some were highly ambitious, optimistic efforts to rehabilitate the long-term unemployed. While humane and enthusiastic in orientation, the projects were unsuccessful for reasons that have a familiar ring. It had been anticipated that the products of workers who had learned a skill would bring in sufficient profit to cover expenses of those just learning. In fact, skilled workers left the projects as soon as possible. This meant that the infirm, the very young, and the least able were left behind as the nucleus of the work group. Furthermore, the products made by the project workers had no relation to goods currently in demand on local markets.[3] By the beginning of the 18th century, war with France, industrialization, and inflation had brought an end to these efforts. A much sterner philosophy asserted itself, as embodied in the English Poor Law Reform Act of 1832. All persons seeking public relief were required to enter the workhouse. Any pauper receiving public subsidies outside the workhouse was not to receive benefits at any rate greater than the lowest going wage rate for working men in the locality.

The categorical -- rather than universal -- approach to poor relief, use of the workhouse for the indigent, preference for "settled" rather than transient poor in disbursements of relief, and linking of benefit levels to the lowest wages for productive workers were all principles transferred directly

from England to the United States. However, while immigrants from England brought with them the Elizabethan Poor Law, no model projects to promote self-sufficiency were adopted. The American approach to problems of labor supply or productivity among the poor remained generally more conservative and punitive.

The American Experience before 1935

Outside the great almshouses of the East Coast in the United States (which evolved into distinguished teaching hospitals), workhouses and almshouses merged in the 19th century into one institution in most communities. The aged, infirm, alcoholic, and orphanned were lodged with farmers who could not pay their bills, transients, and luckless widows. The law was vague on the difference between vagrancy and unemployment, and vagrancy was punishable by imprisonment. Blacks were ineligible for relief, however meager, under American Poor Law provisions.

With the waves of southern and east European immigrants who poured into American cities over the last four decades of the 19th century came a distinct split in philosophical and organization provisions for the unemployed. The Settlement Movement, another legacy from the English, emerged as a means of helping the middle and upper classes to understand the ethnic heritage of newly-arrived workers in America's urban areas. Improvement of working conditions, maternal and child care, unemployment and health insurance, and community development were major themes of the settlement houses, whose target population was the working poor just above the poverty line.[4]

For the utterly destitute, the Poor Law and the workhouse remained, bolstered by a new movement--the Charity Organization Society, or COS. The COS movement paralleled the Settlement Movement and was a response to the first major sign of cyclical unemployment in this country.[5] Recurrent, locally serious recessions began in 1870 as one of the consequences of the Industrial Revolution here. The COS acted as a local relief coordinating agency, visiting homes of relief applicants to determine eligibility and attempting to establish objective standards for minimum family budgets. (It was from the COS movement, incidentally, that modern social casework and later, the United Funds of American, evolved.) Charity Organization Society workers were committed to the ideal of moral rehabilitation of the destitute, but differed from predecessor organizations in being wholly nonsectarian.[6]

A Partial Break with Poor Law Tradition

The Social Security Act of 1935 and the Wagner-Peyser Act of 1933 constituted the first departures on a national scale from local Poor Law administration and institutions. The Wagner-Peyser Act set up the nation's first system of employment services and state-administered unemployment insurance. The Social Security Act provided pensions for aged, blind, (and in 1955) disabled workers; the destitute in these categories became eligible for public assistance. The workhouse was abandoned; in-kind relief was eschewed in favor of cash payments; township administration and taxation was supplanted to state and federally-subsidized assistance. However, enduring distinctions between "worthy" and "unworthy" poor were retained by creation of a separate assistance program for the able-bodied, jobless family with dependent children--Aid to Dependent Children. It was expected that ADC recipients would be worthy widows and small children who had no hope of employment.

Between 1935 and 1960, two relatively independent systems of social provisions for the poor rather unevenly emerged: one for the person temporarily displaced from work because of cyclical unemployment, who received unemployment compensation and job referrals; and the second system for individuals whose entry into the labor market was blocked by disability, age, other personal limitations, family responsibilities, or lack of opportunity. And, until the 1960s, it was largely true that destitute, fatherless families moved into the welfare (ADC) system, while some unemployed intact families were supported through the unemployment insurance system. When the Department of Health, Education and Welfare was established in 1953, figures on characterstics of ADC recipients suggested that fewer than five percent of the family heads were employable.[8] This judgement was confirmed by the general lack of relationship between demand for public assistance and unemployment rates.

During this period, then, the needs of the destitute unemployed were treated as a problem for the public assistance system in the case of the aged, blind, and disabled; a problem of the educational and political system in the case of immigrants; a problem in the free market system in the case of workers suffering from lay-offs or technological displacement; and a problem for the correctional system in the case of many minority juveniles and adults. Outside of the common school, traditional apprenticeship programs, and vocational education at the local level, there were no national provisions for the development of human resources in the civilian population. A series of work relief programs had been used by Roosevelt during the New Deal to help stimulate the economy, but these public work and public service employment strategies were abandoned after 1938.

Employment and Training Programs for the Disadvantaged: The Current Situation

Between 1962 and 1968, the shape of modern American employment and training policies finally took shape.[9] Characteristically, program development was categorical, oriented toward putting the able-bodied to work, and for the poor, not well related to the system of income supports under public assistance. Since the introduction of the Manpower Training and Development Act in 1962, manpower policies have suffered from intrinsic conflicts and incoherence. The domain of employment, education, and training programs, relevant theory, target populations, effective technologies, and desired goals have been differently interpreted by government bureaucrats, elected officials, academicians, and program providers.

Four basic themes continue to be sounded through Congressional legislation: (1) reduction of unemployment among the poor; (2) skill upgrading, or improved utilization of the already-employed worker; (3) reduction of low-wage employment, and increased self-sufficiency of those dependent on public assistance; and (4) increasing the productivity of the labor force. Programs such as the Job Corps, Neighborhood Youth Corps, and Upward Bound through the nation's Economic Opportunity programs were designed to enhance job preparedness of youth, and in modified shape continue to be implemented through the Comprehensive Employment and Training Act (CETA). The ADC program explicitly incorporated mandatory work and training provisions with the WIN Amendments (1967, 1972) to the Social Security Act. This represented a publicly unnoticed shift in program philosophy from child welfare and child protection for fatherless families to priority on labor force participation of mothers, with subsidized day care for their youngsters. WIN programs, as presently constituted, have a minimal training component and are chiefly geared toward job placement. The effect of WIN has been to extend the average period that individuals remain on ADC, through a combination of low-wage work and welfare payments. About 25 percent of all recipients are now employed full or part-time. The WIN program has not induced ADC recipients to spend more hours at work, but it has brought more family heads into the labor market.[10]

The CETA program, authorized in 1973 but not fully implemented until 1975, has elements of all major manpower themes. Reduction of employment for the cyclically unemployed is provided through public service employment funds in Title VI and Title II. Proposed Carter administration cutbacks in Title VI will reduce this program to approximately 250,000 job slots. Provisions for skill upgrading under Title II represent approximately 10 percent of monies under that title, but are rarely utilized because of the potential for clashes with local union interests. Reduction of low-wage employment is a goal in all CETA programs. Attacks on this problem have been undertaken in demonstration projects for job creation and job redesign and worker training programs under Title II. Income maintenance is an implicit goal of summer youth programs, and promotion of self-sufficiency is emphasized by the priority given to ADC clients in the CETA program. (To date, however, coordination between CETA and public assistance programs has been less than successful.)

Other CETA programs seek to raise worker productivity through outreach, counseling, skills, assessment, training, job referral, and job development. The emphasis is overwhelmingly on the so-called "supply side" of the labor market--training, education, and supportive services which will

enhance the capacity of individual workers to adjust and advance in the job market. Considerably less attention has been paid to the "demand side"--redesign of jobs, alteration of work environment, creation of new jobs, changed utilization of workers in the economy, or modification of the opportunity structure. Severe changes in the 1978 Amendments to CETA have restricted eligibility and have resulted in much sharper targeting on long-term unemployed and genuinely poor adults. Women and minorities now constitute the majority of clients served under all CETA titles except Title VI. Evidence from a longitudinal study of CETA participants begun in 1976 indicates that Title II programs have been much more successful than originally thought in promoting sustained labor force participation. It has also been discovered that, with the exception of referrals from the ADC programs, most applicants for CETA services are not persons who have otherwise sought assistance from the social welfare network.[12]

The Jobs Service is the third of manpower services highly utilized by the disadvantaged. The role of the Jobs Service since its inception has been that of labor market exchange, with the goal of referring well-qualified workers to meet the labor force requirements of local employers. Although the Jobs Service was encouraged to offer special services to disadvantaged applicants beginning in 1965, studies have indicated that less time is spent in assessment and fewer referrals are given to minorities and disadvantaged individuals. CETA funds have been commingled with Jobs Service programs to generate better labor market data for job planning and placement. Limited mobility assistance has also been available, although Americans have generally not favored this means of helping workers relocate.

Since 1962, American manpower policy has vacillated between economic objectives--increased worker productivity, mobility of labor resources, and utilization of labor supply--and welfare objectives, such as maintaining income, increasing job satisfaction, and personal fulfillment. No one agrees whether manpower policy can, or should, emphasize social or economic goals, or both. Moreover, policy debate continues over whether manpower training opportunities ought to be universal or focused on the disadvantaged. Should the most skilled workers be "creamed" for promotion and new job opportunities, or should investment be concentrated on the disadvantaged, hard-core, and multi-problem unemployed? Lacking consensus, it has been impossible to relate manpower programs effectively to other public goals including education, economic growth, inflation control, and reduction of poverty. The level of federal commitment has remained relatively low and reactive or compensatory in strategy. No full conceptualization of the occupational cycle has been used as the basis for program planning or financing.

Two significant trends may be noted in American manpower policy over the past 20 years. First, the number of program providers and administrative units has continually proliferated, despite the objective of CETA legislation to offer a unifying umbrella for program planning and funding. While the programs under CETA nominally remain under local control, prime sponsors today actually allocate only 20 percent of CETA funds; the remainder is contracted by the federal government. CETA programs therefore reflect a bewildering diversity in levels of professionalism, creativity, community responsivity, and auspices. WIN programs have grown less important in the mind of Congress and proposed welfare reform legislation will virtually eliminate them in favor of expanded responsibility under CETA. The Jobs Service continues as a long-time state bureaucracy, incompatible in structure and personnel with the newer CETA prime sponsors.

A second trend has been growing stress in manpower programs on services to the disadvantaged, or structurally unemployed, rather than skilled or cyclically unemployed. As public service employment strategies have fallen from favor, private sector initiatives and especially small business have been hailed as the true locus for manpower development and job creation. The 1978 Amendments to CETA establish Private Industry Councils which are to enlist the support of businessmen in planning, monitoring, implementing, and evaluating programs for the disadvantaged. The impact of Private Industry Councils has yet to be assessed, although an early implementation study by Ohio State University raises serious question about their usefulness.[12]

Fallacies of the Present and Prospects for the Future

The future direction of manpower programs for the disadvantaged in the United States is open to question. There are five basic fallacies in present-day public and private responses to manpower programming, particularly under CETA. A change in viewpoint and program mechanisms will be necessary in each of these areas if manpower efforts are to have significant impact on the status of the disadvantaged. It is conceivable that both economic productivity and social well-being of unemployed, low-income persons can be enhanced, given modifications in current approaches.

1. The Fallacy of Atypicality

There is a widespread tendency to treat work habits and behavior of the disadvantaged, unemployed worker as atypical. This attitude derives from our long cultural conditioning that unemployed persons are "unworthy." Particularly in the new private sector initiative programs, considerable discussion in the CETA literature is devoted to explaining why a private businessman should be willing to accept a CETA client in the work force almost as if the CETA client were some strange creature from an unknown world. In fact, the problems of low-income workers--drug addiction, low motivation, family breakdown, legal troubles, personality and mental disorders, poor health--are shared in one form or another by many persons in the labor force, irrespective of income level. The "Alcoholism in Industry" program launched by the Chicago Chamber of Commerce in the late 1950's was aimed at helping long-time, high-paid workers. The idea has spread, because many corporate boards contain recovered alcoholics who recognize the problem all too well.

The point is that by addressing the personal, economic, and educational needs of the disadvantaged worker, industries actually gain valuable information about how increases in productivity can be achieved among the remainder of the labor force. The unemployed and disadvantaged workers are not a special problem, but a special example of broader problems which affect a significant proportion of working men and women.

2. The Fallacy of Short-Term Return on Investment

Programs under WIN and the Jobs Service are both focused on immediate job placement. Counseling and training for the structurally unemployed under Title II of CETA vary up to a maximum placement of 18 months. Programs which have the lowest cost per participant are favored, such as on-the-job training, while classroom training and public service employment are less desirable because of their high cost and lengthiness.

A series of demonstrations and quasi-experiments by the Manpower Laboratory at Colorado State University between 1960 and 1969 consistently showed that it may take up to ten years before a hard-core unemployed individual surmounts multiple personal and social obstacles impeding entry and promotion in a primary labor market job.[13] Five years may be considered a minimum. Certainly, when one compares the relatively minimal social investment in poor children, particularly if they have grown up in families receiving public assistance or minimum wages, it should not be surprising if substantial resources were required to bring adults to an equivalent level of functioning with more advantaged individuals. In 1977, the undiscounted value of investment of a middle class youngster from birth through college was $90,000; for a youth from an ADC family completing high school, the investment was $20,000.

Evidence from well-designed research on manpower programs indicates that the most successful have modest goals which recognize a series of small, incremental steps up an increasingly complex hierarchy of work adjustment tasks.[14] The problem of bringing about unsubsidized employment in the primary labor market is therefore extended and developmental, not a time-limited, maximizing process of shifting an individual from short-term training into an awaiting job slot.

3. The Fallacy of Socio-Psychological Causation

The manpower literature tends to treat work habits and behavior of the unemployed, disadvantaged worker as products of individual socio-psychological orientations. Inability of the worker to find and retain employment is extensively analyzed in terms of individual competencies, feelings of self-worth, ability to work with others, response to supervision, perception of the opportunity structure, personal appearance, communication skills, and intellectual ability. The CETA system, for example, is elaborately organized at intake to determine interests and potential of the worker and then to match these with the optimal mix of work experiences, on-the-job training, classroom training, and full-time subsidized employment for a time-limited period. Job placement and job development functions have generally been subcontracted, at least in Illinois, to the Jobs Service, leaving prime sponsors with the mandate for placement but relatively weak internal resources and visibility for this task.

With this approach, the outcome of manpower development activities under CETA--that is, increased productivity of workers in the private sector--hinges to a large extent on new and better models for participant screening, selection, assessment, and referral. The premium rests on models of training which significantly convert undesirable worker traits into desirable or marketable qualities at the least cost, in the shortest amount of time, in the most replicable manner.

The fallacy in this preoccupation with worker characteristics and training models is that it wholly ignores the structure of the work site, the design of the job to be performed, the orientation of management to ethnic or racial minorities, the preparation of supervisors for work with persons who may differ in race, sex, or prior life experiences from employees traditionally occupying work roles in the firm, and the adequacy of the work environment in terms of stress, noise, health hazards, space for work, wage policies, and other variables impacting employee health and welfare. While there is only limited evidence on the impact of the work environment on productivity and job retention of disadvantaged workers, available studies seem to indicate that for on-the-job training, the bulk of negotiation and review activity is concentrated on creating the OJT slot. Once an individual is placed in the slot, surveillance by management and by the manpower organization drops to a minimum. The data also seem to how that relatively little attention is given to design of the job to be performed, or to its careful structuring. This is not to imply that job design is wholly ignored, but rather that its significance is underestimated and underevaluated in relation to the productivity of disadvantaged workers. There is sufficient basis in the literature now for arguing that job design may be one of the most important determinants in the success of an on-the-job placement.

Studies of disadvantaged workers show that most employee turnover in entry-level positions is attributable to poor initial screening and poor supervision. A few studies also point out that monitors from manpower organizations can expect to have little direct influence on the daily work environment of trainees. Job coaches, counselors, program monitors, and other manpower agency staff external to the firm can help to reduce obstacles to continued employment or higher productivity. They are most effective, however, in manipulating those situations that occur outside the workplace -- e.g. child custody and child care issues, evictions, insurance claims, homemaker services, health needs, or transportation. Intervention at this level ensures that an employee can get to work with less anxiety and fewer claims on his or her attention. Staff from manpower organizations are relatively helpless, however, in controlling the worksite itself.[16]

This suggests that training and continued interaction with floor managers and supervisors is as essential as obtaining the commitment of management to on-the-job contracts. A positive orientation by management does not ensure that persons responsible for daily supervision of disadvantaged workers will share a similar disposition. There have been no studies in CETA programs of the extent to which labeling and stigma are attached to program participants and negatively affect treatment by fellow workers. However, the effects of stigma in other welfare programs have been well-documented, particularly in the British literature. Negative attitudes by supervisors and peers may produce isolation, self-hate, feigned illness, poor attendance, and low output.

Environmental variables such as stigma, job design, and job supervision can be manipulated to the benefit of both worker and employer. Our preoccupation with psychological variables and personal variables may omit just those structural and process considerations which are most influential in job success and productivity.

4. The Fallacy of Homogeneity

While it is a commonplace to discuss "the" unemployed and disadvantaged as if they were a homogeneous group, in fact the population enrolled in manpower programs is exceedingly heterogeneous. Minority teenagers, mothers in ADC and older workers may all be treated as priority groups under CETA, yet their job training and development needs are highly dissimilar. Young persons with no labor market experience, women who identify with traditional female roles, and experienced workers who are victims of recession require different resources, counseling techniques, and support services. CETA programs, because of their inception during the War on Poverty, have been strongly oriented toward youth; staff have been least effective with handicapped, middle-aged, and correctional populations. The response of private sector employers to ADC recipients is strongly negative, yet disadvantaged minorities with no history of welfare dependency are accepted far more readily. Workers nearing retirement may wish employment only for purposes of supplementing a pension, while young workers are interested in a much broader occupational horizon. The "Job Club" -- an idea in vogue among prime sponsors -- may be a promising method of stimulating inexperienced workers to seek job interviews, but is not likely to help an older adult overcome anxieties about age and skill which inhibit job search behavior.

Manpower program planning in the United States should be oriented toward a life-cycle view of the individual, and the changing requirements for manpower training and support services which accompany maturity and aging. The fragmentation of the service delivery system and the separation of the Job Service hierarchically and philosophically from CETA programs vitiates against a more holistic and realistic view of differences in individual needs for manpower training. However, for purposes of intelligent program evaluation, it is essential to keep in mind that there are at least five distinct paradigms for entry, processing, and termination of an individual through a manpower program. These paradigms vary with age of the worker, previous work experience, health, and education.

5. The Fallacy of Inevitable Unemployment

Americans are conditioned to believe that unemployment, like taxes, is an inevitable feature of the social and economic landscape. "Full employment" is a hypothetical concept; debates among economists touch more on what the acceptable level of "normal" unemployment should be. It is still generally argued that unemployment and inflation are inversely related. Manpower programs for the structurally unemployed are justified by theorists on grounds that even if full employment were attained, the structurally unemployed would still be unable to enter the labor market because of personal or social limitations.

It is instructive to note the example of other advanced western industrial nations in their conceptualization of employment and unemployment. Sweden, for instance, has just emerged from the most serious recession to strike its economy since 1933. Throughout the three-year downturn, the Swedish unemployment rate never exceeded four percent. Creative use of public service employment, payments to private business which encouraged retention of workers for training rather than lay-offs, and selective investment of public funds were among the policy instruments used to maintain and build productivity in this period of otherwise wasted capacity.

In the case of West Germany, manpower training is so meshed with current employment and labor exchange information that an individual may retain virtually continuous attachment to the labor force throughout a lifetime. If a worker believes he or she is in danger of losing employment, the individual may approach the employment service and ask to be retrained. Selection of jobs is made from those occupations which are scarce or in high demand. A subsidy is paid until training is complete, and the worker is pro-

vided with relocation assistance when ready to move. Although this plan for total provision does not operate perfectly, the underlying conception is that unemployment insurance should ideally be eliminated. Societal arrangements should be such that individuals move between training and employment as needed, with state assistance, throughout a sequence of careers. It is recognized that a break with the labor force is more serious to remedy than a loosening connection.

Summary

The destitute in this country are heir to a venerable tradition of mandatory work requirements, mixed with a rehabilitation motif and conditional grants of public relief. While the workhouse as a manpower institution dates back to the mid-16th century as a local responsibility, federal initiatives in this country only began after World War II. Federal manpower policies have increasingly targeted the disadvantaged, although great ambiguity remains as to whether the objective is primarily economic, oriented to increased productivity, or social.

The impact of current manpower programs for the disadvantaged has been vitiated by a belief that the long-term unemployed are distinctively deviant or different; that job adjustment and advancement of the disadvantaged can be achieved with program inputs lasting less than 18 months; that personal attributes of the disadvantaged worker are more significant than factors in the work environment in determining job satisfaction or retention; that the disadvantaged poor are all the same; and that the problem of unemployment must be addressed primarily after it occurs or is perpetuated. A broader view of occupational development of the life cycle, recognition of the diversity and common humanity of disadvantaged persons in the labor market, and a concept of continuous attachment to the labor force through alternate employment and training would bring a more productive perspective to modern manpower programs.

Footnotes

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REACTION
TO
EMPLOYMENT AND TRAINING PROGRAMS FOR THE DISADVANTAGED: HISTORY, CURRENT STATUS, AND FUTURE PROSPECTS

Robert M. Tomlinson

It is both a pleasure and a challenge to react to the paper by Professor Flynn. I will limit my remarks to selected aspects of the paper and attempt to make some extensions from the paper as they relate to vocational education.

She sets the context for the entire paper in an historical perspective. Vocational educators need to be far more aware of the historical and philosophical influences which provide the context for specific legislation, implementation activities and other actions by both the governmental and private sectors. Such considerations are essential to gain an appropriate perspective for judging short-term actions.

An example of this consideration is her citing of the poor laws in England of 1601. If my memory of history serves correctly, these laws were passed in an attempt to facilitate the economic development of England in the mercantile expansionist era and were a result of "technological innovations." The invention of the flying shuttle and related developments made the weaving of cloth much more profitable and required far fewer workers. The serfs and freeholders were forced off the land to permit the landlords to increase the grazing of sheep to provide the wool for the weaving of cloth. These displaced persons crowded into the cities and some means was necessary to force them into employment to actually produce the cloth for trade. The religious beliefs and the Protestant Ethic of the time supported the "work to be worthy" philosophy.

An important distinction is made in the paper between the "worthy" and the "unworthy" unemployed. After 300 years we are still ambivalent about how to deal with these two "classes" of the unemployed. The worthy unemployed are generally thought of as the aged and disabled while the unworthy are the "able bodied and apparently able to work" individuals. There is little debate about the legitimacy of supporting the former; but, there continues to be significant debate about whether to support the latter and, if so, what types of programs of support are desirable.

The paper dates the U.S. Federal level policies in dealing with the unemployed and/or disadvantaged to developments following World War II. Some of us can remember the WPA and PWA as well as the Civilian Conservation Corps, or CCC program, of the 1930's. Many of the programs under the MDTA and CETA have similar aspects to these forerunners. Some aspects of all this legislation have had elements of "make work" for needy individuals and some subsidiary aspects of actual training for employment. The balance between these two purposes, unobligated support or required training for support, has vacillated as indicated in the paper. As of this date, no clear decisions or policy have emerged to provide direction on the extent to which each of these approaches should be supported. Very simply, the federal government does not have and has never had a consistent or long-term plan or policy concerning manpower development or utilization. Crash programs based on expediency have been mounted in response to economic growth or war conditions.

A point, or theme, that is not highlighted to any degree in the paper is that a primary purpose behind all of the federal manpower programs has essentially nothing to do with training. That is, the legislation is passed in periods of recession or depression and provides money for "economic pump-priming." Training requirements are added as secondary to help make the whole approach more "socially acceptable" than the provision of simple welfare, which is seen as the alternative. However, much of the evaluation of the effectiveness of these programs has been made in terms of the resulting employability of those who received assistance. Such approaches to accountability distort any possibility of adequate evaluation or attempts to obtain employability for a particular target group.

The vacillation between human development objectives and welfare objectives pointed out in the paper have been not only relatively longer term, three to five years, but also on a year to year basis. It is this vacillation as well as the proliferation of administrative units and levels to carry out such programs that have caused some of the major difficulties for interfaces between vocational education of the more traditional type of operation and the specialized governmental funded programs. With each program has come a major increase in the personnel and time required for all of the paper work and reporting forms. The regulation and proliferation of administrative units has made it most difficult for the local person to plan adequately and to conduct programs in cooperation with the specialized funding provisions. In many cases, the funding is entirely inadequate to carry out all the special requirements as well as the follow-up specified in the various programs. In some cases, entirely separate programs have been necessary to interface with schedules, locations and utilization of funds. On a year to year basis, funds for programs have increased or decreased so that no continuous planning from one year to the next, or even from class to class, could be accomplished. Many programs have been established under specialized federal funding and students have been identified and selected, however, at the point when the class was to start, they were delayed for some months until the next funding period started and funds could be available. In many locations it has been impossible to utilize an integrated approach for both the on-going and the specialized programs. Changes in organization and structure are often needed to deliver services to the target group.

Another point that needs to be highlighted, and was given some mention in the paper, is the operational results of certain policies for the specialized federally funded programs. Too often the accountability measures used, the ease of operation of the program and the need to show an enhanced measure of success have resulted in a "creaming process." This practice of selecting the best of those eligible has resulted in avoiding the problems of dealing with those who most need the services. Those most in need can seldom be served adequately in the short-term and most of the programs were created and funded for short-term.

The WIN program is mentioned as an example of a successful approach. In some of my own research, the WIN program and its predecessors for some 20 years have been a viable mechanism to make preparation for employment possible for a selected group of persons. For example, in our study of practical nursing we found that a significant proportion of the persons in the East St. Louis, Illinois area had been able to obtain preparation as practical nurses as a result of the WIN and other government funded programs. In a follow-up study some years after training, essentially 100 percent of the persons who had had support and had completed the program were successfully employed. This is one example of a longer term type of program which had been able to serve the needs of a select target group, primarily minority females, who were receiving aid for families with dependent children.

Another federally funded program not mentioned in the paper that I think has particular merits, although it had only a short term funding period, is the JOBS Program or Job Opportunities in the Business Sector. This program provided some supplemental assistance to industries to employ eligible persons and assist them in becoming a part of their regular work force. This program provided various types of support on-the-job by those within the company. Professor Flynn suggests that this is a necessary component for a successful program. This program was having a fair level of success in a number of locations but was terminated when a recessionary period made it necessary for those companies to lay off some of their longer term and regular employees. There are some similar efforts through the local Private Industry Councils, but they have not had the publicity or the national industry efforts of JOBS. To my knowledge a parallel program has not been initiated since. It would be unlikely to be successful under economic conditions where layoffs are the pattern rather than the exception.

I would like to endorse for further investigation, exploration and consideration the five fallacies concerning the disadvantaged and unemployment emphasized by Professor Flynn in her presentation.

In closing I would like to repeat a proposal made by Rupert Evans in his paper for the Vice-President's Task Force on Youth Employment. He makes

the case that many of the federally funded special programs have attempted "work experiences" as a mechanism for dealing with the unemployment problem e.g., summer youth programs, public service employment, OJT. We have also tried support for the institutional approach through education programs. Each of these approaches have had some successes but significant limitations. He proposes that the approach that we have not tried sufficiently is a concurrent work-and-education approach on a longer term basis. Such an approach certainly seems to have potential merit. I would like to support the call for a much closer working relationship between the special federally funded programs and administrative units and vocational education to deliver a coordinated, long-term work AND education program.

Work Productivity and the Developmentally Disabled

James E. Martin

One out of every five Americans outside of an institutional setting is disabled (Jamero, 1979). This means that over 23 million adults, or almost 19 percent of our non-institutionalized population are disabled--creating our nation's largest minority group. Further, only 40 percent of the disabled are working in competitive employment, with over 6,000 of these workers paid at the poverty level. An estimated 200,000 of the non-competitively employed disabled are working in sheltered workshops or work activity centers, and an estimated six million disabled are in need of sheltered employment (Whitehead, 1979). Over the past decade the work activity center, which employs severely developmentally disabled individuals, increased in client population by 614 percent. These centers now comprise nearly two-thirds of the total workshop population, while in 1968 they represented only one-third of the total (Whitehead, 1979). These data do not include 156,000 institutionalized developmentally disabled (DD) individuals.

Current legislation defines a DD as a severe, chronic disability attributed to a mental and/or physical impairment, which is manifested before the age of 22. Further, it is thought that the disability will most likely continue indefinitely resulting in substantial functional limitations in at least three of the following areas: self-care, self-direction, learning, economic sufficiency, receptive and expressive language, mobility, and the ability to live independently. Being DD implies the need for care, treatment, or other services that are individually planned and implemented for an extended period of time or perhaps a lifetime (Breen & Richman, 1979). This paper focuses upon the work productivity of those handicapped individuals who are DD.

The majority of the vocational research literature concerning the work productivity of DD individuals has demonstrated that a wide variety of social and vocational skills can be acquired (Rusch & Schutz, In press), and that the productivity rate of many DD individuals can equal non-disabled workers (Jamero, 1979; Lynch, 1979). Unfortunately, many forces hinder and obscure the integration of productive DD workers into the national workforce (Whitehead, 1979), and the competitive economic system (Mithaug, 1979; Heal, 1980; Martin & Laidlaw, 1980). The purpose of this paper is to examine the integration of the DD worker into the national workforce by first discussing the factors which encourage integration, and secondly by investigating the forces which hinder and obscure the integration of this last minority group (GMC, 1977).

Factors Which Encourage Integration Into the Work Force

Training

The employment potential of DD individuals has been recognized empirically since the 1940's and the feasibility of DD individuals to be employed has been demonstrated many times (Jamero, 1979). Short term, intensive vocational training, though expensive at first, does provide long term cost benefits. It is estimated that for every public dollar spent, eight dollars are returned (Jamero, 1979).

DD individuals can learn to be productive employees when adequate training is provided. The lack of certain skills must not be confused with inability to learn (Rusch & Schutz, 1979). Incorporating training technology called applied behavior analysis can enable DD individuals to acquire, maintain and generalize vocational skills (Rusch & Mithaug, 1980). An applied behavior analytic approach to vocational training consists of: (a) an objective analysis of the individual's behavior, (b) direct and repeated measures of the analyzed behaviors, (c) replicable training techniques, and (d) acquisition, maintenance, and generalization phases (Rusch & Schutz, 1979). Thus, the antecedent events that seem to set up behaviors and the consequences that provide feedback and reinforce behavior comprise the parts of the objective analysis (Albin, Stark, & Keith, 1979).

Legal Rights

The DD individual has the legal right to be a part of the work force. In 1973, Congress passed and the President signed into law the Vocational

Rehabilitation Act. This act and its subsequent regulation established the so called "Bill of Rights for the Handicapped" (Jamero, 1979). For example, Section 503 requires contractors with the federal government to have affirmative action programs to hire handicapped employees, and prohibits discrimination against disabled individuals in the area of employment when they would otherwise be qualified. Section 504 mandates that all new facilities constructed by HEW funding be barrier-free. Also, this Section 504 prohibits any recipient of HEW funds to deny admission to a disabled person just because of the existence of a disability.

Financial Incentives

The employer who hires the disabled can claim financial benefits. Employers of DD individuals can claim as a deduction of 50 percent during the first year of employment and 25 percent during the second year of the first $6,000 earned each year (Ashcraft, 1979). Also, the National Association for Retarded Citizens and the U.S. Department of Labor have mutually established an on-the-job training project. The employer of a retarded individual will be reimbursed the entry wage paid for the first four weeks of employee training and adjustment, and then will receive 50 percent of the entry wage paid during the next four weeks (Ashcraft, 1979).

Entry Level Employment

A recent survey of past work force trends determined that minority groups usually become employed in jobs which require little training or experience. The Irish, and more recently black Americans have worked in these entry level slots before moving on to higher level employment. DD individuals can, with adequate training and follow-up, become employed in the service industry (U.S. Department of Labor, 1976; Rusch & Mitnaug, 1980). For instance, the Food Service Training Program, the Housekeeping Training Program, and the Employment Training Program at the University of Illinois, Urbana campus, are demonstrating that mentally retarded adults can become service industry employees.

Summary

Several factors encourage integration of the DD individual into the work force. A technology supplied behavior analysis now exists which can train complex assembly tasks to severely retarded workers, and legal rights have been established to enable DD workers to enter the work force. Today, employers who hire the DD persons can obtain financial benefits through tax breaks and direct salary reimbursement. However, many forces hinder and obscure these positive factors that facilitate integration into the work force. These forces are presented in the next section.

Forces That Hinder and Obscure the Entrance of DD Individuals Into the Work Force

Attitude and Behavior of the DD Individual

Many DD individuals do not possess a work ethic, i.e., the concept of work being a means to an end (Martin, Flexer, & Newbery, 1979). The work ethic concept is important to assist in the long term maintenance of an acquired skill. Unfortunately, many DD individuals do not understand the relationship between work output and reward. Thus, the concept that buying power equates with money earned is often not learned, therefore contingent payment for work produced has no tangent relationship to work (Martin, Flexer, & Newbery, 1979), even though it is the primary method of payment in sheltered workshops and work activity centers.

A few DD individuals have maladaptive behavior problems which interfere with continued employment. For instance, at the University of Washington's Food Service Training Program, behavior such as verbal abuse and refusal to follow instructions has caused potential workers to lose their jobs. Many times, the number and extent of poor attitude behaviors acts as an indicator of failure (Sowers, Thompson, & Connis, 1979).

The typical non-disabled worker will spend varying portions of time in vocational activities, leisure-time pursuits, and activities of daily living. These activities are interdependent and if one is altered or absent it will have an effect upon the others (Kiernan, 1979). But many DD individuals do not have a normal daily routine. Many DD persons live in a facility that provides basic custodial and structured in-house activities which do not resemble the non-disabled worker's. Thus, differentiated social roles are formed which can cause isolation and the DD individual is stigmatized.

Employer and Co-worker Attitudes

A recent study indicated that employer attitudes about DD individuals were ranked lower than any other minority group, including ex-convicts (Colbert, Ualisk, & Chang, 1973). Employers more often than not will formulate opinions about DD individuals based on what they cannot do rather than on what they can do (Jamero, 1979). Employers often believe that DD individuals are always sick, unhealthy, and require protection from pressure (Wysocki & Wysocki, 1979). Many employers also assume that people with a DD label are incompetent and therefore deny them employment opportunities (Rusch & Schutz, 1979). Jamero (1979) believes that lack of personal contact and misinformation has, in part, maintained negative employer attitudes.

Since many people are taught since early childhood to be alert and apprehensive of differences, this reluctance to accept others can be found in vocational settings. Often, once a DD individual obtains a non-sheltered competitive job, minimal social interaction and superficial acceptance occur among co-workers. If the DD individual maintains the job long enough to produce at the normal rate, subtle co-worker rejection surfaces, creating co-worker tension (Kiernan, 1979). The non-disabled often do not realize that being DD does not mean total disability but rather in some activities equality at skill does exist.

The Productivity Equation

Capital, technology, and manpower are the components of the productivity equation. Our present economic system drops manpower out of the equation and instead focuses upon capital and technology (Roscow, 1979). Manpower is so fundamental to productivity that managers overlook its impact. Perhaps the lack of concern to employees' needs has contributed to the slack productivity growth rate. People need to be placed back into the productivity equation because they are our greatest natural resource. But non-disabled workers are presently being excluded so DD individuals are excluded, also.

The Secondary Labor Market

Many DD individuals are employed in the secondary labor market (Jamero, 1979). This market, at best, pays at a subsistence level, has limited career advancement, and provides minimum or no benefits. When a DD individual becomes employed s/he will often become ineligible for public support funds which could help subsidize the poverty level earnings (Wysocki & Wysocki, 1979). Thus, in many instances it is in the DD individual's best financial interest to remain dependent upon public welfare. The public financial support system offers little incentive for an individual to increase his/her income since increases of even small amounts reduce public support payments.

Assessment

Vocational assessment has been of almost no practical use (Gold, 1975). Vocational evaluators are using assessment procedures developed for a non-handicapped population and are using them with DD individuals (Schalock & Karan, 1979). Many DD individuals are being underserved or not served due to inappropriate assessments. The current instruments are not appropriate for use since severe DD individuals lack the skills, traits, or attributes that are measured, and try to classify without giving training information that could assist in the development of individual training programs (Irvin & Halpern, 1979).

The Present Vocational Training System

Paradoxically, the force that most hinders and obscures the entrance of the DD individual into the work force is the vocational training system. Often, appropriate vocational and independent living programs are not provided at the secondary and post-secondary level. The DD individual who is denied adequate training enters a vicious cycle; their skill deficits exclude them from enriching opportunities, which then limit expectations. These lowered expectations prohibit entrance into training programs to gain additional skills which fulfill additional lowered expectations (Rusch & Schutz, 1979).

In the not too distant past, DD students would receive a watered-down version of programs designed for non-handicapped students. Basic instruction in art, music, English, history and other subjects did little to prepare students for entrance into the work force (Fairchild, Mithaug, & Otto, 1979). All students need to learn what the vocational environment is like. Instead of training skills the teacher believes important, an actual anaysis of jobs should be undertaken. Special education staff need to consist of special educators trained in vocational education, and vocational educators need to have a background in special education.

Sheltered workshops and work activity centers employ and train DD individuals who are outside the competitive labor market for movement into competitive job placements. But most of these programs do not integrate their workers into mainstream economic and industrial activity (Whitehead, 1979). In 1976, the average hourly wage for all workshop clients was .81, a mere 35 percent of minimum wage. Only 12-15 percent of the workshop population move into competitive employment each year, with 75 percent of this group being placed within a year after admission (Whitehead, 1979). In other words, as DD individuals stay longer in a workshop, they have less chance of being placed.

Whitehead (1979) believes that workshops and work activity centers encounter many non-habilitative issues which may in part explain the low pay and placement rates. The work obtained is poorly priced, overly simple, and in inadequate supply. Most work is labor intensive due to lack of automated procedures. The floor supervisors generally are the direct production staff but they are the least paid and trained of all non-disabled workers. The DD population requires social skill training in addition to vocational training; however, the quality and quantity of this training is poor. The financial base of workshop and work activity centers are often short term, limited, and too small to support an adequate training staff. Also, funding is often based on the number of people in the program rather than upon qualitative changes in the population (Pomerantz, & Marholin, 1977). The opportunity to move to a higher paying job in the workshop is very limited. Additionally, the opportunity to move from a work activity center to a sheltered workshop is often limited due to the lack of a complimentary program. Finally, when an individual is trained to do a job and placed, little follow-up occurs. This situation creates frequent employment trouble and loss of employment (Rusch & Mithaug, 1979).

The present vocational training system often focuses upon general outcomes rather than upon the training strategies that would teach a skill (Lynch, 1979). Supervisors in workshops have had little exposure to systematic training techniques. In many instances job placement has been viewed as matching job requirements to the skills of available workers; unfortunately many DD individuals do not match job requirements without specific training (Albin, Stark, & Keith, 1979).

Past professional practices have established a fragmented service delivery system that is based upon disciplinary lines (Kiernan, 1979). Thus, the coordination between the various segments in the service system seldom occurs. For example, after the termination of mandating special eduation services in public schools, many DD individuals have no access to other services. Also, available vocational training services are often time limited and not available to the more severely disabled (Kiernan, 1979). Unfortunately, public schools are starting to establish workshops and are in danger of incorporating many of the same plans (Pomerantz & Marholin, 1977).

Summary

Forces are present which hinder and obscure the entrance of DD individuals into the work force. DD individuals often do not possess a work ethic with employer and co-worker attitudes frequently precluding hiring a DD worker. Our economic system seems to place more emphasis upon capital and technology than upon the work force. The secondary labor market, where many DD individuals find employment, pays at or below a subsistence level. But most unfortunately, the present vocational training system is fraught with underdeveloped training approaches and with a conceptually inadequate model.

Conclusion

Developmentally disabled individuals can become productive members of our nation's work force. Notwithstanding the factors which encourage integration, the forces that hinder and obscure productive employment presently limit individual potential. These forces appear unmanageable; however, consistent efforts to integrate DD workers into the manpower pool create success. Hopefully, the placement of dependable, productive DD workers will slowly diminish the negative forces.

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REACTION TO WORK PRODUCTIVITY AND THE DEVELOPMENTALLY DISABLED

Frank R. Rusch

Vocational rehabilitation researchers have focused on three major areas of study for over two decades with respect to productivity and handicapped persons (Rusch & Schutz, In press). During the fifties, investigators attempted to isolate specific factors affecting the employability of the mentally retarded (Kolstoe, 1961; Shafter, 1957; Windle, 1962). Closely following these studies came studies focused on vocational evaluation and prediction (Ferguson, 1958; Fry, 1956; Patterson, 1964; Tobias & Gorelick, 1960). The third and most recent area of research has concentrated primarily on the modification of rate of existing behavior, i.e., increasing productivity (Evans & Spradlin, 1966; Schroeder, 1972; Zimmerman, Stuckay, Garlick, & Miller, 1969). The sixties ended with researchers applying learning principles to diverse populations, including the severely handicapped (Crosson, 1969).

Researchers in the seventies brought a different perspective to the term productivity. The seventies began with illustrations of competence (Bellamy, Peterson, & Close, 1975) and ended with texts devotrd to the best practices to follow to train individuals to produce goods (Bellamy, Horner, & Inman, 1979). The seventies also began with the plea for normalized services (Wolfensberger, 1972) and ended with a number of concerns that, as Martin (in press) has pointed out, will undoubtedly influence the contribution handicapped persons will have on the productive capability of this nation.

The seventies will be thought of as the decade that saw tremendous growth of sheltered work settings, i.e., sheltered workshops and work activity centers (Whitehead, 1979). Contrasting with growth were the beginning efforts of a few researchers in the later part of the seventies to study productive behavior in non-sheltered settings (Cuvo, Leaf, & Borakove, 1978; Rusch, 1979a; Sowers, Thompson, & Connis, 1979; Wehman, Hill, & Kohler, 1979). Many of these researchers devoted their efforts to applying the principles of behavior analysis (Rusch & Mithaug, 1980) to diverse problems related to the ability of handicapped persons to become contributing, productive members of society. For example, moderately and severely handicapped persons have been taught to purchase color-coordinated clothing. (Nutter & Reid, 1978), cross intersections (Vogelsberg & Rusch, 1979), ride buses to and from work (Sowers, Rusch, & Hudson, 1979) and perform a number of basic life skills necessary for (semi-) independent living, e.g., mending clothing (Cronin & Cuvo, 1979) and brushing teeth (Horner & Keilitz, 1975).

The eighties, therefore, would appear to be a likely decade for the study of productivity in more naturalistic settings, i.e., on our public highways repairing pot holes rather than in our sheltered workshops producing widgets. It would also appear to be a decade that would witness quality, integrated services being provided to handicapped persons -- services that promote their becoming contributing, productive members of society. However, as Martin indicated, there are a number of forces working against community integration just as there are a number of forces that would appear to be supporting integration. The eighties, therefore, are entered with qualified optimism.

Today, in 1980, the forces working against the integration of handicapped persons appear stronger than the forces encouraging community integration because the positive forces lack coordination. In particular, social service agencies, affecting the quality of life for every handicapped person in this nation, lack coordination. Community integration's success may largely be related to the eventual capability of handicapped persons to produce goods. Essentially, worth will continue to be determined by the handicapped person's ability to enter into the workforce. However, entry into the workforce alone will not ensure successful integration and necessary community adaptation.

Community integration requires an individual to acquire and maintain a complex of behaviors, e.g., leisure skills, mobility skills, and social skills (Schutz, Vogelsberg, & Rusch, in press). Further, integration requires skills in requesting and receiving human services, e.g., from doctors, barbers, and grocers. For those persons with severe handicaps, the community of human service providers will be required to adapt their environments to insure successful integration. Adaptation will include continuing to restructure curbs [redacted] chairs and redesigning jobs (Schwaille and Horner, in press).

Contemporary service providers, i.e., vocational educators, residential trainers, speech and language clinicians and physical therapists, are seeking to affect the quality of life of handicapped persons through adherence to the tenets of normalization. The normalization principle has as its most rudimentary tenet the delivery of services in environs and under contingencies that are as culturally normal as possible. But, the coordination of the forces that support these goals is absent. For example, the relative success of efforts to provide normalized services has been less than optimal due to the unilateral approach of various human service agencies responsible for administering services. It is not uncommon to find priorities for funding change from competitive employment one year to establishing residential alternatives the next. It would appear that because we have the behavioral technology and the computer technology to do the job, i.e., train persons to acquire necessary survival skills and monitor their progress (Rusch, 1976b), we now must develop the administrative technology to provide normalized community services with maximum effectiveness. This means that all forces that promote and support the integration of handicapped persons must be coordinated.

A review of various state agency's practices serves to illustrate the need to coordinate the forces supporting community integration. In the state of Illinois, as in other states, service agencies have proliferated to the detriment of service provision. This is supported by noting simply that more and more time is being devoted by service providers to the completion of paperwork; more and more time is also being spent on the part of local service providers to search for monies to implement local services. Such searches require that local agencies respond to different agencies, with different proposals, in different formats, at different times throughout the fiscal year. Vast service resources have been devoted to the quest for funds.

Quality services for handicapped persons include residential and vocational training programs. Service providers are well aware of the need to include residential-related programming in the areas of money management, personal hygiene and grooming, community mobility, social behavior, leisure, meal preparation and domestic chores. Service providers are also equally aware of the necessity to program vocational training in the areas of task completion, speed of task completion, time management, grooming, peer interaction, and arrival/departure from work. It is clear that these programs have come under the purview of different agencies, particularly as these agencies' priorities change. It also appears clear that these agencies should attend to the total person, agreeing upon common goals, guidelines, forms, and monitoring reports that are amenable to each to serve the purpose of all.

In summary, as long as these agencies continue to approach the problems of handicapped persons from a unilateral perspective, the focus of community service efforts will not effectively be combined to minimize the detrimental and mitigating forces working against community integration. Undeniably, the question facing the handicapped in the eighties is, "Will the positive forces be coordinated to focus upon the individual for whom normalized services are intended?"

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Concepts in Curriculum Related to Productivity

Jacob Stern

If there is a relationship between occupational education and productivity it is probably through curriculum; and if curriculum effort is to be brought to bear on problems of productivitiy, we must have a definition of productivity which lends itself to curriculum development efforts.

For the purposes of this paper, therefore, I will define productivity as a quality or state in which goods and services are produced under certain conditions and to certain criterial levels. To amplify briefly on this definition, I feel that it is necessary to stress that "goods and services" are intended to include all the economic and non-economic utilities which the species seeks to provide for itself. The term "conditions" in the definition denotes all of the circumstances, environmental factors, inhibitors and facilitators under which and with which these goods and services are produced. "Produced" is intended to connote the physical, chemical, biological and psychological processes by which the goods and services are created as well as their distribution to the point of utilization. Finally the term "criterial levels" is intended to include the quality, efficiency, reliability and durability of the performances or events which produce these goods and services.

Now that the keyword has been defined (at least to my satisfaction) we may come to the central question; namely "What is the problem in regard to productivity?"

The problem is that the quality or state in which goods and services are produced nowadays in our country leaves something to be desired. The conditions under which production takes place are often unsafe (witness the hue and cry raised when OSHA started to flail its administrative club). In the same vein there is a growing awareness and concern that the traditional rewards for superior performance are no longer as powerful motivators as they once were. In criterial terms the record is replete with examples of goods and services whose quality, i.e., design, fabrication, finish, delivery and maintenance, are far below a reasonable standard. In fact the situation has become so bad in this regard that high quality work is viewed by some as a thing of the past and by many as a bad contemporary joke.

This situation has broad ramifications on the domestic as well as on the international scene, and on the personal and social lives of producers and consumers. In economic terms more seems to buy less, and foreign goods and services are more esteemed in the United States than are their domestic counterparts. It is against this backdrop that "Productivity" has become the code word that it has, and consequently it comes as no surprise that national conferences, special seminars, and special issues of professional journals are turning their attention to it.

In this paper I will present briefly two views of this problem. Both perspectives have implications for curriculum theory and development. These are the Technologist's view, and the Analytic/Behaviorist's view. From the Technologist's view, problems in productivity are primarily (if not exclusively) responsive to technological solutions. History provides many examples of great leaps forward in productivity due to breakthroughs in technology. In my own technical field, i.e., machine tool technology, one may trace one such development over a period of about 100 years. One of the limiting factors in productivity in this technology is the physical/mechanical properties of the cutting tool. During the last century this technology has moved from high carbon steel to high speed steel, to tungsten carbide, to ceramic oxide cutting tools. The accompanying increase in cutting speed of machine tools has been roughly 30 times. In simple terms, this means that productivity (affected by the efficiency criterial element alone) increased by about 30 times due to these technological breakthroughs.

Such great advances have taken place in the production of many different goods and services. Agriculture is an outstanding example where modern fertilizers, herbicides, pesticides, and machines have raised productivitiy to levels that could not have been anticipated a century ago. In banking, retailing, medical services and construction; in the home as well as at play, technology has greatly enhanced our productivity. Looking to the future,

who knows where the next breakthroughs will come. Will they be in food from the sea? Will they be in exploitation of other planets? Will they be in unleashing the untapped potential which is commonly thought to be latent within each of us as humans? Or will it be (as some technologists and artists have predicted) in the field of robotry? The Technologist's view is that these and other possibilities must all be considered and that through stimulating technological innovation, breakthroughs will occur which will elevate productivity to constantly new heights.

The Analytic/Behaviorist view is quite different. Its focus is on the performance of humans as key elements in the productivity problem. This view stresses micro examination of the conditions under which the human performs his/her function in the productivity cycle. These conditions are physiological, psychological, social, economic and technological. Productivity may be enhanced (or inhibited) by altering these conditions. Changing the ambience of the work place, altering the socialization patterns of workers, providing economic and non-economic incentives etc. may have a positive or negative effect on productivity.

This view also focuses sharply on the criterial aspects of performance. As the conditions more or less represent process factors, the criterial elements specify the attributes of the output. Tolerances may be tightened, production time may be reduced, process reliability may be increased, and high level performance may endure over long periods of time without interim reinforcement. Through influencing the behavior of the worker, it is possible to enhance productivity by performance improvement along these lines.

A corollary to this is the matter of monitoring and experimentally altering the time it takes for new trainees to reach acceptable levels of productivity. It is generally recognized that new workers who have just completed their training achieve acceptable levels of productivity only after the passage of some time. How much time? Can we reduce that time through modification of instruction? If it can be reduced by this means, how much should we attempt to reduce it? In other words, is there a point of diminishing returns on further training in this regard? At present a modest inquiry is being conducted along these lines.

Let us now turn somewhat more systematically to the implications for curriculum of these two views of the productivity problem. There are many possible responses by curriculum developers to the Technologists view. As some of these technological innovations will involve changes of basic principles, increased emphasis on science, problem-solving, independent inquiry and experimentation are a few of the curricular responses which may be expected to yield the desired results. Even in the case of technologies characterized by innovation within basic principles, learning experiences which encourage adaptive and experimental behavior should be stressed. There are obvious implications here for laboratory design, instructional materials, teacher competencies, and of course teacher education. These will not be detailed in this paper; however, suffice it to say that each subject area represented in the broad field of vocational and technical education has its own contemporary exemplars of this curricular response to the technologist's view.

How then may curriculum developers respond from the Analytic/ Behaviorist's perspective? For the last several decades (at least in contemporary terms since the appearance of Robert Mager's little book), the behavioral objectives movement has been the dominant ideology in curriculum, particularly in vocational and technical education. While the ascendancy of this view has often been decried and deplored, it has persisted. In fact I am sure that its critics have often wondered how such a superficial perspective has persisted for so long. The answer to this question is simply that this behavioristic approach is not necessarily superficial, nor reductionistic, nor demeaning. On the contrary, it has tremendous potential for revealing and maximizing the depth and scope of human capability. The discovery of the microscope did not diminish the majesty and mystery of nature. Indeed it may well have enhanced our appreciation of it. I am sure that early critics of the use of the mirror raised the same objections as some of the modern critics of the Analytic/Behaviorist view.

In terms of curriculum response, there are many possibilities. We may broaden or at least alter the selected conditions under which the desired performance is elicited. In some areas there is a great disparity between the conditions of performance in the instructional setting and the conditions of performance in the world of practice. Monitoring and experimenting with these conditions will be a fruitful avenue of curriculum research in vocational and technical education. Such experimentation could well yield significant advances in productivity. Similarly, investigations on alterations of emphasis on the criterial elements of performance in the instructional setting have great potential. A cursory examination of this area reveals an incredible bias in favor of qualitative criteria and a virtual absence of emphasis on the efficiency, reliability, and durability elements. In most vocational and technical education programs there is scant attention given to the factor of time to complete the job. There are exceptions of course, and office practice is one of the notable ones; however, the criticism is nevertheless valid, and curriculum reform along these lines may be most useful. It is a mischievous misconception to view the desire to do a good job quickly as a negative quality. Vocational and technical education has an obligation to help to eradicate this misconception. I cannot help but feel that this view is a residual backlash from the sweatshop, speedup, Stakhanovite tradition of a primitive and largely bygone industrial era. Indeed vocational and technical education curriculum workers have an important task to fulfill here.

Finally, let me suggest that the definition with which I began this paper may be expressed as a mathematical equation:

$$P = C\ (Q+E+R+D)$$

in which P = productivity, C = conditions, Q = quality, E = efficiency, R = reliability, and D = durability. The general form of this equation of productivity may be suitably adapted to any particular occupation by adjusting the values associated with each of the factors. A hypothetical example may be expressed as follows. In occupation X, C may range from .5 to 1.5 such that .5 = most favorable conditions, .75 = favorable conditions, 1.0 = normal conditions, 1.25 = unfavorable conditions and 1.5 = most unfavorable conditions. Similarly, in this hypothetical case Q, E, R and D might vary from 1 to 5 as lowest/highest quality, slowest/fastest speed, etc. Using these values, highest productivity would be represented by P = 30 and lowest productivity by P = 2. It will be noted that criterial considerations being equal, performance under less favorable conditions would represent higher productivity than performance under more favorable conditions. This interpretation has profound significance for those who would attempt to make comparisons between productivity in technologically advanced and technologically retarded conditions. The appropriate technology movement may also be seen somewhat more clearly through the application of the Productivity Equation in this case. As a guide toward improving productivity, it seems to me that this paradigm may have great potential. It appears to bring clarity to a concept which has been clouded by ambiguities. It provides a framework for research and development activities in curriculum for vocational and technical education.

If it does nothing more, at least it points up the dysfunction of the superficial view that productivity is synonomous with more goods and services produced faster. After all, isn't it possible (at least in some cases) that more and faster is precisely what our society does not need?

REACTION
TO
CONCEPTS IN CURRICULUM RELATED TO PRODUCTIVITY

John Washburn

It was indeed a privilege for me to be invited to react to the paper prepared by Professor Jacob Stern. Initially in the paper, productivity is defined as "a quality or state in which goods or services are produced under certain conditions and to certain specified criterion levels." It is suggested at the onset of the paper and in the latter stages that the productivity level in our country is low as a result of:

1. The conditions under which goods and services are produced;
2. the quality of goods and services produced;
3. the efficiency of producing goods or services;
4. the reliability of current goods and services, and
5. the durability of current goods and services.

Professor Stern explores the issue of productivity from two different perspectives: Technological and Analytical/Behavioral. From the Technological perspective, increased productivity can be achieved through expanded innovation. From the Analytic/Behaviorist perspective, emphasis is placed on the conditions under which humans influence productivity. Using each of these views as focal points, Professor Stern suggests a variety of implications for curriculum development/reform. These include, but are not limited to:

1. Emphasis on problem solving, experimentation and independent inquiry as a means of changing basic technological principles;
2. emphasis in the instructional setting or practical experience with the real world of work conditions, and
3. emphasis in competencies needed to affect reliable, durable, efficiently-produced goods and services.

In the latter stages of the paper, Dr. Stern suggests that we quantify productivity by qualifying the relationship that exists between the conditions under which goods and services are produced and the quality, durability, reliability and efficiency by which the goods and services are offered.

From my experience, I tend to view the decline in productivity and resulting curriculum needs from three different perspectives not unlike Professor Stern's, but somewhat differently organized. I view the influences of productivity from private sector, human development and public sector perspectives. The private sector influence is closely aligned, in some respects, with the technological viewpoint that Professor Stern describes, yet somewhat broader. The human development influences are closely aligned with the Analyist/Behaviorist view described by Professor Stern. The public sector influences are also discussed in Professor Stern's paper vis a vis an OSHA perspective.

In the private sector, predominant influences on productivity include low investment in plant equipment and technological research; increased labor costs and shortages; lower rate of major innnovation; capital shortages, and increased costs for raw materials and energy. It is clear that technological advancement can increase productivity. However, technological advancement will not, in my opinion, increase productivity if the real resources are not available to support that advance. A noted economist, William Miarnyk, suggests that "we cannot have perpetual growth in a technological world. Our resources are finite." For my money, some vocational education dollars should be prioritized to affect, wherever possible, the training and service capabilities of those persons that are developing renewable energy sources. Without renewable energy to support technological advances, we can expect diminishing returns for our technology.

From a human development perspective, such factors as public hostility toward business; inflation; decline in the work ethic; a shift in the age of the labor force; increased perception of what labor can do for us; poor quality goods and increased absenteeism; an unwillingness to defer immediate

reward and gratification; and job security concerns are paramount. Chambers of Commerce all over this country call it "economic literacy." It is that unusual part of the human work consciousness that some call the affective domain. To me it's lifestyle. We have gone to the other side of the pendulum from an almost "holy" view of work to a view that perceives work as a way to the good life (to spend, buy and use). In the process, we have somewhere inextricably woven the concept of "undesirable" jobs. Vocational education dollars can be put to use in our schools to bring the pendulum back in the middle somewhere. We need to move from a slightly melancholy view of work to one in which it simply becomes a "good cause"--not at all an easy curriculum task.

From a public sector influence, such factors as: health and safety legislation; government grants not renewed without demonstrated short-term progress; a cherished belief that our "leaders" can pull it out, and economic policies that stifle rather than stimulate investment are all areas which affect production. We find, for example, the public sector competing with private industry for limited capital dollars to meet an ever increasing debt service. A university professor is expected to "publish or perish" often before research is completed. We support very little long term research and development efforts in our own State Board office. We just simply cannot always show classroom applicability for research and development in five years as vocational education law requires. These influences are all coupled with my concern that vocational education teachers in this country are hard to find as the profession no longer offers the incentives necessary to meet the standard of living we all expect.

From a vocational education perspective, an emphasis needs to be placed on solid leadership--leadership that is concerned about the balance between business, industry, labor and government. We need to define how vocational education can influence these public sector influences which inhibit productivity.

From my perspective, the productivity equation is at least as complex as Professor Stern suggests in his paper. Characteristics such as durability, reliability and quality are, in my opinion, measures of the effects of productivity. We need to concern ourselves in vocational education with just where we can legitimately impact on productivity. We cannot do it all.

In some fashion, productivity is equal to many factors associated with private sector, human development, and public sector influences. What vocational education leaders need to do is clearly define how, in fact, these influences affect productivity. People like Taylor, Schaumaker, Miernyk, Kaufman and Drucker have defined many of the influences for us already. We desperately need to decide just where vocational education fits. Then we can clearly define the long term curriculum and professional development needs for vocational education.

III. CONCLUSION

Closing Remarks to Symposium Participants

Rupert N. Evans

I am not going to summarize what has been presented to you in the last few days. There is no way anybody can do that, or at least no way that I can do it. Instead, I want to make a few comments about what seemed to me to be some of the more important issues that have been raised and have not been raised. We have not said much about, "Why all this interest in productivity?", and I think there is a very real reason for it--that is that we already have underway a sharp decline in our standard of living. This decline is principally being brought about by increases in international prices for oil and other raw materials which are affecting the entire world. I believe that there are only three ways to slow or possibly to counteract this decline in our standard of living. First, to increase our labor force participation more rapidly than we increase the number of consumers. We have done a pretty good job of that. Second, to increase private sector employment, rather than public sector employment. We have done something with that. And third, to increase productivity.

One point came through distinctly during our two days of discussions: increasing productivity has costs. There is not any free lunch in productivity increase just as in most other things. Sometimes we have not, however, sharply differentiated between increases in productivity of individuals, enterprises, or nations. All three of these presumably lead to gains in standards of living. That is, the increases in the productivity of an individual are likely to lead to increases in that individual's standard of living. Similarly, increases in the productivity of enterprises and of nations are likely to lead to increases in the standards of living of those involved with those enterprises and nations.

Increases in the productivity of enterprises, it seems to me, can be accomplished through increasing the productivity of their current workers, or through displacing workers with productive capital (as opposed to capital that is expended on things which do not lead to production), or through replacing less effective individuals with more productive individuals. These three options obviously have different effects on individuals. Increasing the productivity of current workers tends to be good for current workers if they were and will be not working too hard. Displacing of workers through increasing the use of productive capital is not generally regarded by those displaced workers as having been good for them. And the attitudes toward the replacing of less productive individuals with more productive individuals depends on whether you are one of those being replaced or one of those who is doing the replacing. These three options are being exercised very differently in Japan than in the United States, very differently in union and in nonunion establishments, very differently in large and in small enterprises and they affect poor people very differently.

There are some interesting differences in the timing of training for productivity. Nations are more likely to train workers at the bottom of the economic cycle, while enterprises do their training when the economy is expanding. Vocational education is designed to do the same amount of training regardless of the state of the economic cycle. Therefore, vocational education is the only agency that is doing any training at all on the down side of the economic cycle.

When nations exclude unproductive workers from work, most feel somewhat of an obligation to keep these excluded workers from starving. Enterprises do not have that particular morality. This, it seems to me, leads nations to encourage actions which remove persons from welfare and allow them to be at least marginally productive, because then the nation does not have to pay for keeping them from starving. So nations, more than enterprises, are interested in encouraging individual gains in productivity. Enterprises tend to be interested in employing workers with the highest levels of productivity they can find, rather than in taking very unproductive workers and tuning them into marginally productive workers.

In view of our interest in productivity, it was interesting to me to look at a very recently compiled tabulation of vocational education outcomes. There were, believe it or not, 252 outcomes listed for vocational education, but careful reading on my part could not find productivity inferred even once in that list of 252 outcomes.

Finally, some random comments. During the last couple of days, Sweden was mentioned again and again. I thoroughly enjoyed a quote from a recent study in Sweden in which they were looking at the future of Swedish employment. I quote, "Linear extrapolation indicates that in a few years no one will be producing anything in agriculture or industry and half of the Swedes will be fully occupied taking care of the other half."

One of the most striking sets of figures that I heard in our two days was Marilyn Flynn's note of the investment we make in 21 years of a person's life if the person goes to college. This amounts to about $90,000. A similar investment for 21 years for a typical AFDC child is about $20,000.

I think we view productivity unrealistically unless we look carefully at Professor Steven's term, "Incumbent insecurity." Insecurity of incumbents, however you phrase it, is the obverse of a search for a predictable, comfortable environment. We must recognize that the primary goal of virtually every worker is the protection of that worker's job. Everything that we do or think or say about productivity and vocational education must take this into account. This makes one think, of course, of asking the general question, "Who are the winners and who are the losers as we develop productivity?" There are losers as well as winners. There are costs.

I was beginning to think we were going to get away from here without ever asking questions about the productivity of the trainer. Fortunately, Professor Stern brought us back on track. The papers on special education also had a bit to say about productivity of the trainer. This is a vital part of productivity, surely. A recent article talks about the success of institutions and the failure of their task. It talks about skid row missions and says essentially that if a skid row mission is to continue to exist as an institution, it must fail in its task. You can expand this concept a bit to look at prisons, sheltered workshops and rehabilitation counseling. All of these groups need to fail in their tasks in order to let their institutions survive. As part of looking at failure, we need to look at how often trainees are recycled through the system. How long do they stay in the system? Ten-year doctoral programs recycle doctoral students. A four-year high school vocational program may create some task failures subconsciously in order to be sure that the institution survives.

I was amazed, frankly, at how we came up with what seems to be to be three completely different definitions of productivity. I heard an almost unstated definition in which productivity was seen as "the output per worker per unit of time." More formally it was identified as "the amount of output relative to input." Finally, Professor Stern stood productivity right on its ear by suggesting a measure of personal productivity which says that in a work setting which allows you to produce at all, the worse the work setting, the more productive you must be. At least that is the way I understood him. I am not sure how one ought to act in order to maximize productivity under that definition.

I still have questions, after our two days, of how we can reconcile our needs for productivity with our values about occupational, social and geographic mobility. I do not know the answers, but I wish I did.

I must say that I come away from two days of presentations and discussions much better informed about the issues, more aware of some of the problems, but even more unsure than before about the solutions. That is almost a definition of education, so it is clear, that the last two days have been an education for me.

Productivity in the Workforce: A Vocational Education Perspective

James A. Leach

> Managers do a lot of talking about higher productivity being the key to higher profits. On that belief, we have built so-called professional management into a laboratory science -- so concerned with efficiency, automation, time and motion studies, and work simplification that many of us have overlooked the human beings whose work lives are defined by those bloodless concepts.[1]

One of the first questions of concern to vocational educators raised in this monograph was, "Why should we be concerned with the topic of productivity in the workforce?". A second question, of obvious importance to researchers, asked, "What difference would it make if we knew more about productivity?". The purpose of this paper is to present responses to these questions from a vocational educator's point of view. The first part of the paper will offer a rationale for the concern with, and involvement of, vocational education in the topic of productivity in the workforce. The second part of the paper will suggest what differences or outcomes might result from knowing more about the topic.

A Rationale for Vocational Education Involvement

Recently, the American public has become enlightened concerning the lagging productivity of the nation's workforce. Declining productivity has been spotlighted as a major cause of inflation. Irving Morrissett stated the relationship simply: "The most important basic fact about inflation and income is that if average income increases by more than average productivity, inflation must result."[2] Virtually everyone is concerned with inflation. The nation's economic downturn, in particular the rate of inflation, has made the productivity of the workforce a professed concern of many disciplines outside economics.

In many respects, the productivity of the workforce has always been a concern of vocational education. By its very nature, vocational education has concentrated on the appropriate preparation of youth for participation in the workforce. In recent years, this mission has expanded to serve additional populations besides youth and has begun to place emphasis on preparing people for job maintenance and job mobility as well as job acquisition. The assumption has been made, I think, that adequate preparation for an occupation inherently incorporates achievement of an adequate productivity standard. If these productivity standards are no longer adequate, perhaps, as Stern pointed out in an earlier paper in this monograph, quantitative productivity standards, as well as qualitative standards, need to be emphasized in vocational education programs.

As questions are asked regarding the reasons for the declining productivity of the workforce, so too will questions be asked about the preparation of those workers. If productivity continues to decline or fails to increase, vocational education will, in my opinion, be asked to do somethig about it. This seems to be a safe prediction since schools have always been, to a certain extent, a reflection of society's ills and are almost always expected to cure them. If the traditional pattern holds up, the demand for schools to solve the problem will come from many segments of society including business and industry, labor, and government.

In view of the expected pressure to help prepare a more productive workforce, vocational education can choose to make the necessary adjustments in its programs to emphasize the quantitative aspects of working. This may, in some manner, help to alleviate the problem in the short-run. There are, however, obvious tradeoffs involved in this approach such as possible reductions in the quality of work performed or even in the quality of working life. Vocational education can choose to respond in another and, I think, more important fashion. Vocational education can help to investigate the concept of productivity in the workforce to determine more appropriate solutions to the problem.

The concept of productivity cuts across all occuptional areas in vocational education and is of equal importance to each. As has been pointed out

in the previous papers, productivity is a complex concept with measurement difficulties and various causal factors. These factors include: capital formation, technological advancement, and labor utilization. The literature points to the fact that much needs to be learned regarding the relationships among these factors and their effects on productivity. Indeed, new measurement techniques and standards may need to be explored.

Obviously, vocational education is directly linked to, and may be most concerned with, the labor utilization factor and human capital formation. Vocational education has an opportunity for, and a legitimate concern in, the pursuit of disciplined inquiry regarding this facet of productivity. Vocational education shares the responsibility of adding to the understanding of the concept of productivity in the workforce.

Potential Outcomes

Any effort to predict potential outcomes of an effort by vocational education to become actively involved in research on the concept of productivity is at best incomplete. The possibilities or the differences it can make are most assuredly unknown. The following four possibilities are not meant to represent an exhaustive list of potential outcomes but, rather, are presented as examples of what might result.

First, an obvious outcome might be increased productivity of the workforce. If more is known about the concept, more can be done to manipulate the factors involved, including labor. Manipulation of the labor factor is not a new concept and does not necessarily have to be undesirable. Concepts such as participative management, job sharing, participative ownership, and self-renewal require further research. Much can be learned about what motivates workers to be more productive. We know very little about what the incentives should be or the effects of incentives on productivity or on the worker.

Some observers believe that the point of diminishing returns has been reached in technological advances and that the labor factor is the key to increasing productivity. James Bere, Chairman and Chief Executive Official of the Borg-Warner Corporation, stated that: "the real untapped asset at most corporations is the energy of the human spirit and that it lies waiting like a coiled spring to release enormous potentials for higher productivity."[3] Why some workers are more productive than others or why some environments are more conducive to higher productivity need to be looked at in new and different ways.

Within this framework, much more can be learned about the concept of "incumbent insecurity" suggested by Stevens in a previous paper in this monograph. The use of various techniques to protect one's job may be a psychological burden which surely affects productivity, but in which direction or to what extent is not known.

A second outcome of research on the labor factor might be new measurement techniques. Perhaps economists have tended to concentrate on too narrow a range of factors in explaining and measuring productivity growth. Current methods tend to shun less tangible and, to this point, less measurable factors such as worker discontent or the effects of leisure. Campbell McConnell points out that after assessing the quantitative impact of a number of conventional factors in the productivity slowdown - the decline in the growth of capital per man hour, the real decline in research and development outlays, sectorial and demographic shifts in the labor force, and so forth - the Council of Economic Advisers admits that: "the reasons for the slowdown are not fully understood at this time because the decline in productivity growth appears to be larger than the sum of the estimated effects of these factors."[4]

A third outcome of research and development on productivity might be a greater voice and role for vocational education in establishing and carrying out manpower policy in this nation. Productivity and its related concepts will be an integral aspect of any manpower policy development. The future role of vocational education in the development and delivery of manpower programs may depend in large part on the leadership it displays in identifying and dealing with complex problems such as productivity in the workforce.

Finally, a fourth outcome of vocational education involvement in research and development on the concept of productivity may be at least a partial answer to the question of how much emphasis is to be placed in this country on the output of work. Stated in another way, what is the relationship between productivity growth and the quality of life?

David Eastburn has made the distinction between "economic man" and "social man."[6] Economic man is concerned with production, quantity, monetary values, work and discipline, and competition. Social man is concerned with distribution, quality, human value, self-realization, and cooperation. McConnell observed that: "perhaps society in some subtle fashion is rendering a decision that more is not better. A tacit consensus that social man should prevail over economic man may be emerging. A decline in productivity growth is an expected consequence of such a decision."[7]

Another perhaps more utopian view is that methods can and must be developed to reap the benefits from both the economic and social thrusts. Much more needs to be learned in order to preserve or expand the social welfare while dealing with the economic realities that affect it.

Conclusion

Productivity in its simplist terms is the relationship between outputs and resource inputs. Productivity depends on the quantity and quality of these inputs. It would appear that vocational education can have its greatest impact on the labor input.

The decline in productivity growth may be only an indicator of a workforce that wants a change. The questions for vocational education may be what kinds of changes will they be and what roles should vocational education play in these changes. If the roots of the productivity problem lie in fundamental shifts in societal values concerning work or in major institutional changes, than appropriate remedial measures are less evident and decidedly more complex than the available methods. If this is the case, large portions of subsidies for education and manpower development might best be devoted to research and development activities designed to learn more about the concept of productivity in the workforce.

Footnotes

1. James F. Bere. "Why We Need a Second Industrial Revolution - Led By Management," Management Review, 1978, 67 (7), p. 18.

2. Irving Morrissett. "Inflation: What It Is, Why It Is, and What (Maybe) Can Be Done About It," Social Education, 1979, 43, (5), p. 335.

3. Bere, Ibid., p. 18.

4. Campbell R. McConnell. "Why Is U.S. Productivity Slowing Down?..", Harvard Business Review, 1979, 57, (2), p. 54.

5. Economic Report of the President, p. 45, 1977.

6. David P. Eastburn. "Economic Man in Conflict With His Economic Self," New York Times Magazine, July 26, 1970, p. 10.

7. McConnell, Ibid., p. 56.